Considered 8/19/02

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=> fil medline biosis hcaplus wpids
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=> d que l22
L1            68 SEA ("JURGENSEN S"/AU OR "JURGENSEN S O"/AU OR "JURGENSEN S
                  P"/AU OR "JURGENSEN S R"/AU OR "JURGENSEN STEWARD R"/AU OR
                  "JURGENSEN STEWART"/AU OR "JURGENSEN STEWART R"/AU OR "JURGENSE
                  N STEWART RUSSEL"/AU OR "JURGENSEN STEWART RUSSELL"/AU)
L2           415 SEA ("LLOYD S"/AU OR "LLOYD S A"/AU)
L3             2 SEA "LLOYD SHEILA A"/AU
L4           485 SEA L1 OR L2 OR L3
L5       6231918 SEA CELL#
L6       1702675 SEA SEPARAT? OR SEPN
L7             5 SEA L4 AND L5 AND L6
L8        228514 SEA CENTRIF? OR MICROBEAD# OR MICRO (L) BEAD#
L9             2 SEA L4 AND L8
L10            4 SEA BEAD# AND L4
L11           11 SEA L7 OR L9 OR L10
L13      2284051 SEA APP## OR APPARAT?
L14           14 SEA L4 AND L13
L16            9 SEA DEVICE? AND L4
L17           23 SEA L14 OR L16
L18           21 DUP REM L17 (2 DUPLICATES REMOVED)
L21            4 SEA L18 AND (L6 OR ISOL? OR PURIF?)
L22           15 SEA L11 OR L21


=> d bib ab 1-16

L22  ANSWER 1 OF 15     MEDLINE
AN   2002187474     MEDLINE
DN   21917109   PubMed ID: 11920174
TI   Contact-mediated inhibition of human haematopoietic progenitor
     cell proliferation may be conferred by stem cell
     antigen, CD34.
AU   Gordon M Y; Marley S B; Davidson R J; Grand F H; Lewis J L; Nguyen D X;
     Lloyd S; Goldman J M
CS   LRF Centre for Adult Leukaemia, Department of Haematology, Imperial
     College School of Medicine, Hammersmith Campus, DuCane Road, London W12
     0NN, UK.. mgordon@ic.ac.uk
SO   Hematol J, (2000) 1 (2) 77-86.
     Journal code: 100965523. ISSN: 1466-4860.
CY   England: United Kingdom
DT   Journal; Article; (JOURNAL ARTICLE)
LA   English
FS   Priority Journals
EM   200205
ED   Entered STN: 20020403
     Last Updated on STN: 20020509
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Entered Medline: 20020508

AB INTRODUCTION: The function of CD34, a transmembrane sialomucin expressed by human haematopoietic progenitor **cells**, is poorly understood. Its structure suggests it may act as a **cell** adhesion and signalling molecule. MATERIALS AND METHODS: KGIa **cells** and primary CD34-positive marrow **cells** were tested for their ability to aggregate in the presence of the anti-CD34 antibody QBEND10; CFU-GM colonies were grown using standard methods and tested for their content of colony-forming **cells** by replating; 'haematons' were isolated from marrow by filtration; the phosphorylation of CD34 was investigated by immunoprecipitation and Western blotting DISCUSSION: CD34-positive **cells** in human bone marrow, like KG1a **cells**, aggregate when incubated with QBEND10. Staining aggregates with anti-CD34-FITC revealed that aggregation involved co-localisation of CD34 at intercellular binding sites. We examined myeloid colonies (CFU-GM) grown from normal human bone marrow **cells**, and multicellular aggregates ('haematons') **separated** from freshly aspirated marrow by filtration, and found CD34-positive **cells** bound together with co-localisation of the CD34 at the binding sites. This finding shows that CD34-positive **cell-cell** adhesion occurs physiologically in vitro and in vivo. QBEND10-induced aggregation of KG1a and CD34-positive **cells** was enhanced by staurosporine (a protein kinase C inhibitor) and inhibited by genistein (a protein tyrosine kinase inhibitor). Moreover, aggregated **cells** had increased phosphorylation of tyrosine on CD34 and translocation of protein kinase C (PKC) to the cytoplasm, compared with non-aggregated **cells**. We used the ability of primary colonies to produce secondary colonies on replating as a functional parameter and found that the replating ability of the colonies was increased by treatment with genistein (P=0.003). In addition, the ability of individual samples of primary CD34-positive **cells** to undergo QBEND10-induced aggregation and the ability of CD34-positive **cell**-derived colonies to produce secondary clones on replating were inversely related (r=0.86). CONCLUSION: Our results suggest that homotypic aggregation of haematopoietic progenitor **cells** may be an important mechanism for preventing inappropriate proliferation in vivo. Thus, regulation of expression of the CD34 molecule may play an important role in maintaining the normal level of haematopoietic activity by contact-mediated inhibition of progenitor **cell** proliferation.

L22 ANSWER 2 OF 15 MEDLINE
AN 1999229988 MEDLINE
DN 99229988 PubMed ID: 10215149
TI Dopaminergic activities in the human striatum: rostrocaudal gradients of uptake sites and of D1 and D2 but not of D3 receptor binding or dopamine.
AU Piggott M A; Marshall E F; Thomas N; **Lloyd S**; Court J A; Jaros E; Costa D; Perry R H; Perry E K
CS MRC Neurochemical Pathology Unit, Newcastle General Hospital, Newcastle-upon-Tyne, UK.
SO NEUROSCIENCE, (1999 May) 90 (2) 433-45.
Journal code: 7605074. ISSN: 0306-4522.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199906
ED Entered STN: 19990618
Last Updated on STN: 19990618
Entered Medline: 19990610
AB The human striatum, which receives dopaminergic innervation from the

substantia nigra and ventral tegmental area (**cell** groups A8, A9 and A10), has structural and functional subdivisions both rostrocaudally and dorsoventrally. These relate to motor and non-motor origins of cortical projections and the specific areas of the substantia nigra and ventral tegmental area providing dopaminergic innervation. In the present study, we have evaluated the distribution of a number of dopaminergic parameters in the caudate, putamen and nucleus accumbens at **separate** coronal levels in a post mortem study in a series of elderly normal individuals aged 55-94 years, with analysis of the effect of post mortem variables. Dopamine D1 receptor density displayed a rostrocaudally declining gradient in the putamen but not in the caudate, such that at levels posterior to the anterior commissure, there was significantly lower D1 binding in the putamen compared to the caudate. The density of dopamine D2 receptors was similar in the putamen and caudate, increasing rostrocaudally. The density of dopamine uptake sites exhibited an increasing rostrocaudal gradient in the caudate, especially ventrally, but not in the putamen, where binding was more constant. The dopamine D3 receptor was concentrated in the ventral striatum, particularly the nucleus accumbens, although there was no evidence of a rostrocaudal gradient. With respect to striosome-matrix compartmentalization, there was no complete segregation, although D1 and D3 receptors were concentrated in striosomes, whereas D2 receptors and uptake sites showed higher density in the matrix. Levels of dopamine were similar in the caudate and putamen, and were significantly elevated at levels including the nucleus accumbens and the anterior commissure. Homovanillic acid and the metabolic index (homovanillic acid/dopamine ratio) were significantly higher in the putamen compared to the caudate, especially at levels from and caudal to the anterior commissure. These distributions of dopamine receptors and metabolic indicators, reflecting the different functional domains of the striatum, are relevant to the interpretation of current in vivo imaging of the dopamine transporter and receptors in neurological and psychiatric disorders. They provide information to assist in the detection of perturbations in expression, in specific diseases, at particular points on rostrocaudal, lateromedial and dorsoventral axes, a level of resolution beyond current neuroimaging capability.

L22 ANSWER 3 OF 15 MEDLINE
AN 97425532 MEDLINE
DN 97425532 PubMed ID: 9279582
TI Pattern of Cryptosporidium parvum oocyst excretion by experimentally infected dogs.
AU **Lloyd S**; Smith J
CS Department of Clinical Veterinary Medicine, University of Cambridge, U.K.. ssl1000@hermes.cam.ac.uk
SO INTERNATIONAL JOURNAL FOR PARASITOLOGY, (1997 Jul) 27 (7) 799-801. Journal code: 0314024. ISSN: 0020-7519.
CY ENGLAND: United Kingdom
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199709
ED Entered STN: 19971013
Last Updated on STN: 19971013
Entered Medline: 19970929
AB Six 6-week-old Beagle dogs were fed Cryptosporidium parvum oocysts of calf origin. All 6 dogs shed oocysts in faeces. Greater numbers of oocysts were detected with a Weber concentration technique (formalin-ethyl acetate extraction and NaCl **centrifugal** flotation) stained with either fluorescent antibody or modified Ziehl-Neelsen than with other formalin-ether or -ethyl acetate extraction methods. Oocyst numbers g-1 of

faeces rose from days 3 to 5 to a first and highest peak lasting to days 7-9, and 5 of the 6 dogs passed oocysts for at least 80 days. However, the numbers of oocysts detected in the dogs' faeces were low, only 16.1% of the samples in the first month after infection and 2.5% thereafter contained > or = 10000 oocysts g-1 of faeces. Oocyst production was cyclical, with 19.3% of samples negative in the first month after infection and 42.5% thereafter.

L22 ANSWER 4 OF 15 MEDLINE
AN 93259735 MEDLINE
DN 93259735 PubMed ID: 7684030
TI Fibroblast growth factor receptor-1, interleukin-1 receptor, and glucocorticoid receptor messenger RNA production in the human lacrimal gland.
AU Wilson S E; **Lloyd S A**; Kennedy R H
CS Department of Ophthalmology, University of Texas Southwestern Medical Center, Dallas 75235.
NC EY09379 (NEI)
SO INVESTIGATIVE OPHTHALMOLOGY AND VISUAL SCIENCE, (1993 May) 34 (6) 1977-82.
Journal code: 7703701. ISSN: 0146-0404.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199306
ED Entered STN: 19930625
Last Updated on STN: 19960129
Entered Medline: 19930617
AB PURPOSE. To determine whether messenger RNA coding for fibroblast growth factor receptor-1, interleukin-1 receptor, and glucocorticoid receptor messenger RNA are produced in human lacrimal tissue. METHODS. Total cellular RNA was **isolated** from three specimens of normal human lacrimal tissue and complementary DNA was synthesized. The polymerase chain reaction and sequence-specific primers were used to amplify the sequences of interest from the complementary DNA. Hot blotting and sequence-specific probes were used to demonstrate that the expected amplification products were specific. RESULTS. Data demonstrated that fibroblast growth factor receptor-1, interleukin-1 receptor, and glucocorticoid receptor messenger RNA are produced in human lacrimal tissue. CONCLUSIONS. These results and the previous identification of basic fibroblast growth factor in the lacrimal gland suggest that basic fibroblast growth factor has autocrine or paracrine functions in lacrimal tissue. More study is needed to determine whether the corresponding proteins are produced and, if so, what functions are regulated by fibroblast growth factor receptor-1, interleukin-1 receptor, and glucocorticoid receptor in the lacrimal gland.

L22 ANSWER 5 OF 15 MEDLINE
AN 93047987 MEDLINE
DN 93047987 PubMed ID: 1424651
TI Two-dimensional gel electrophoretic comparison of endothelial **cell** -Descemet's membrane proteins in Fuchs' dystrophy and normal corneas.
AU Wilson S E; **Lloyd S A**; Lloyd W C 3rd
CS Department of Ophthalmology, University of Texas Southwestern Medical Center, Dallas.
SO CORNEA, (1992 Jul) 11 (4) 315-8.
Journal code: 8216186. ISSN: 0277-3740.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English

FS Priority Journals
EM 199212
ED Entered STN: 19930122
Last Updated on STN: 19930122
Entered Medline: 19921210
AB Two-dimensional polyacrylamide gel electrophoresis was used to compare the proteins isolated from the combined corneal endothelial **cell** -Descemet's membrane complex of three pairs of corneas with Fuchs' dystrophy with three pairs of normal corneas. Normal or Fuchs' dystrophy endothelium and Descemet's membrane was documented by pathologic analysis of each cornea. Proteins were **separated** by isoelectric point in the first dimension and molecular weight in the second dimension. Over 300 proteins were resolved from each sample, and similar patterns were noted in both groups. No consistent differences were detected between the corneas with Fuchs' dystrophy and the normal corneas. Allelic variations of some proteins were detected in both groups.

L22 ANSWER 6 OF 15 MEDLINE
AN 92146031 MEDLINE
DN 92146031 PubMed ID: 1723672
TI Epidermal growth factor messenger RNA production in human lacrimal gland.
AU Wilson S E; **Lloyd S A**; Kennedy R H
CS Department of Ophthalmology, University of Texas Southwestern Medical Center, Dallas 75235.
SO CORNEA, (1991 Nov) 10 (6) 519-24.
Journal code: 8216186. ISSN: 0277-3740.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 199203
ED Entered STN: 19920405
Last Updated on STN: 20000303
Entered Medline: 19920319
AB Experimental models and clinical investigations have suggested that epidermal growth factor (EGF) may have a role in corneal wound healing. It has been identified as a normal component of human tears. Rabbit and mouse lacrimal glands have recently been shown to synthesize EGF messenger RNA (mRNA). The purpose of the present study was to determine whether the human lacrimal gland synthesizes EGF mRNA. Total cellular RNA was **isolated** from pathologic specimens of normal human lacrimal glands from two individuals. Reverse transcriptase was used to generate complementary DNA (cDNA) using a human EGF-specific mRNA primer. Amplification of EGF-related cDNA sequences was performed with the polymerase chain reaction (PCR) and human EGF-derived up- and downstream primers. The PCR products from both lacrimal glands contained an amplified product of the expected length of approximately 410 base pairs. The PCR-generated fragment was verified as an EGF-related amplification product with Southern blotting using a synthetic oligonucleotide probe derived from the mature coding sequence of EGF. These results conclusively demonstrate that the human lacrimal gland synthesizes EGF and suggest that the lacrimal gland could have a regulatory role in maintaining the ocular surface and possibly regulating corneal wound healing through the secretion of EGF.

L22 ANSWER 7 OF 15 MEDLINE
AN 85198692 MEDLINE
DN 85198692 PubMed ID: 6442859
TI Babesia microti in mice. Subpopulations of **cells** involved in the adoptive transfer of immunity with immune spleen **cells**.

AU Meeusen E; **Lloyd S**; Soulsby E J
SO AUSTRALIAN JOURNAL OF EXPERIMENTAL BIOLOGY AND MEDICAL SCIENCE, (1984 Oct) 62 (Pt 5) 567-75.
Journal code: 0416662. ISSN: 0004-945X.
CY Australia
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198506
ED Entered STN: 19900320
Last Updated on STN: 20000303
Entered Medline: 19850606
AB Protection against a primary Babesia microti infection in mice, induced by the adoptive transfer of immune spleen **cells**, was abolished when the immune spleen **cells** were treated with mitomycin C prior to transfer. Since mitomycin C treatment prevents the replication of lymphocytes without affecting other **cell** functions, these results would suggest that the transferred **cells** required proliferation in the recipient mice before they could exert their protective effect, and this excludes the already differentiated antibody-forming **cells** (AFC's), macrophages and sensitised helper T **cells**. This was partly supported by the finding that Sephadex G-10 non-adherent immune **cells**, depleted of macrophages and AFC's, still conferred a strong protection after transfer. However, the Sephadex G-10 adherent **cells**, on a **cell** to **cell** basis, initially conferred a better protection against B. microti than did the non-adherent **cells** or unfractionated immune spleen **cells**. The possibility of the retention of an intermediate B memory **cell** type on the Sephadex G-10 columns and the suppression of antibody production are discussed in view of these results.

L22 ANSWER 8 OF 15 MEDLINE
AN 81117359 MEDLINE
DN 81117359 PubMed ID: 7462245
TI The immobilization of mitochondrial malate dehydrogenase on Sepharose **beads** and the demonstration of catalytically active subunits.
AU **Jurgensen S R**; Wood D C; Mahler J C; Harrison J H
NC HL-12585 (NHLBI)
K4-HL-70 (NHLBI)
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1981 Mar 10) 256 (5) 2383-8.
Journal code: 2985121R. ISSN: 0021-9258.
CY United States
DT Journal; Article; (JOURNAL ARTICLE)
LA English
FS Priority Journals
EM 198104
ED Entered STN: 19900316
Last Updated on STN: 19970203
Entered Medline: 19810424
AB Porcine heart mitochondrial malate dehydrogenase (L-malate:NAD+ oxidoreductase, EC 1.1.1.37) has been immobilized by covalent attachment to CNBr-activated Sepharose 4B-Cl gel. The gel was activated with low levels of CNBr to produce a low density of linkage sites and, hence, to facilitate linkage of the enzyme through a single subunit. Matrix-bound mitochondrial malate dehydrogenase was found to possess 50-65% of the native mitochondrial malate dehydrogenase specific activity when assayed in the NAD+ leads to NADH direction but only 5-15% of the native enzyme specific activity when assayed in the NADH leads to NAD+ direction. MB-dimeric mitochondrial malate dehydrogenase was dissociated to

MB-monomer by exposure to pH 5.0 buffer. The MB-monomer was found to be catalytically active, possessing only a slightly decreased specific activity when compared to MB-dimer. The reconstitution of Mb-monomer to MB-dimer was accomplished by adding dissociated mitochondrial malate dehydrogenase, which exists at pH 5.0, to MB-monomer and adjusting to pH 7.5. The kinetic parameters, pH activity profile, and stability toward heat denaturation for MB-mitochondrial malate dehydrogenase (monomer and dimer) were determined and compared to native mitochondrial malate dehydrogenase. MB-mitochondrial malate dehydrogenase exhibited enhanced stability and similar pH activity profiles when compared to native mitochondrial malate dehydrogenase. Immobilization of mitochondrial malate dehydrogenase altered the enzyme's kinetic parameters in such a manner as to increase the values of Km for the substrates and decrease the values of Vmax.

L22 ANSWER 9 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1999:242098 BIOSIS
DN PREV199900242098
TI Dopaminergic activities in the human striatum: Rostrocaudal gradients of uptake sites and of D1 and D2 but not of D3 receptor binding or dopamine.
AU Piggott, M. A. (1); Marshall, E. F.; Thomas, N.; **Lloyd, S.**; Court, J. A.; Jaros, E.; Costa, D.; Perry, R. H.; Perry, E. K.
CS (1) MRC Neurochemical Pathology Unit, Newcastle General Hospital, Westgate Road, Newcastle-upon-Tyne, NE4 6BE UK
SO Neuroscience, (May, 1999) Vol. 90, No. 2, pp. 433-445.
ISSN: 0306-4522.
DT Article
LA English
SL English
AB The human striatum, which receives dopaminergic innervation from the substantia nigra and ventral tegmental area (**cell** groups A8, A9 and A10), has structural and functional subdivisions both rostrocaudally and dorsoventrally. These relate to motor and non-motor origins of cortical projections and the specific areas of the substantia nigra and ventral tegmental area providing dopaminergic innervation. In the present study, we have evaluated the distribution of a number of dopaminergic parameters in the caudate, putamen and nucleus accumbens at **separate** coronal levels in a post mortem study in a series of elderly normal individuals aged 55-94 years, with analysis of the effect of post mortem variables. Dopamine D1 receptor density displayed a rostrocaudally declining gradient in the putamen but not in the caudate, such that at levels posterior to the anterior commisure, there was significantly lower D1 binding in the putamen compared to the caudate. The density of dopamine D2 receptors was similar in the putamen and caudate, increasing rostrocaudally. The density of dopamine uptake sites exhibited an increasing rostrocaudal gradient in the caudate, especially ventrally, but not in the putamen, where binding was more constant. The dopamine D3 receptor was concentrated in the ventral striatum, particularly the nucleus accumbens, although there was no evidence of a rostrocaudal gradient. With respect to striosome-matrix compartmentalization, there was no complete segregation, although D1 and D3 receptors were concentrated in striosomes, whereas D2 receptors and uptake sites showed higher density in the matrix. Levels of dopamine were similar in the caudate and putamen, and were significantly elevated at levels including the nucleus accumbens and the anterior commissure. Homovanillic acid and the metabolic index (homovanillic acid/dopamine ratio) were significantly higher in the putamen compared to the caudate, especially at levels from and caudal to the anterior commissure. These distributions of dopamine receptors and metabolic indicators, reflecting the different functional domains of the striatum, are relevant to the interpretation of current in vivo imaging of

the dopamine transporter and receptors in neurological and psychiatric disorders. They provide information to assist in the detection of perturbations in expression, in specific diseases, at particular points on rostrocaudal, lateromedial and dorsoventral axes, a level of resolution beyond current neuroimaging capability.

L22 ANSWER 10 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1997:404838 BIOSIS
DN PREV199799711041
TI Pattern of Cryptosporidum parvum oocyst excretion by experimentally infected dogs.
AU **Lloyd, S. (1)**; Smith, J.
CS (1) Dep. Clinical Veterinary Med., Univ. Cambridge, Madingley Road, Cambridge CB3 0ES UK
SO International Journal for Parasitology, (1997) Vol. 27, No. 7, pp. 799-801.
ISSN: 0020-7519.
DT Article
LA English
AB Six 6-week-old Beagle dogs were fed Cryptosporidium parvum oocysts of calf origin. All 6 dogs shed oocysts in faeces. Greater numbers of oocysts were detected with a Weber concentration technique (formalin-ethyl acetate extraction and NaCl **centrifugal** flotation) stained with either fluorescent antibody or modified Ziehl-Neelsen than with other formalin-either or -ethyl acetate extraction methods. Oocyst numbers g-1 of faeces rose from days 3 to 5 to a first and highest peak lasting to days 7-9, and 5 of the 6 dogs passed oocysts for at least 80 days. However, the numbers of oocysts detected in the dogs' faeces were low, only 16.1% of the samples in the first month after infection and 2.5% thereafter contained gtoreq 10 000 oocysts g-1 of faeces. Oocyst production was cyclical, with 19.3% of samples negative in the first month after infection and 42.5% thereafter.

L22 ANSWER 11 OF 15 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1981:217319 BIOSIS
DN BA72:2303
TI IMMOBILIZATION OF MITOCHONDRIAL MALATE DEHYDROGENASE EC-1.1.1.37 ON SEPHAROSE **BEADS** AND THE DEMONSTRATION OF CATALYTICALLY ACTIVE SUBUNITS.
AU **JURGENSEN S R**; WOOD D C; MAHLER J C; HARRISON J H
CS KENAN LAB. OF CHEM., UNIV. OF NORTH CAROLINA, CHAPEL HILL, NC 27514.
SO J BIOL CHEM, (1981) 256 (5), 2383-2388.
CODEN: JBCHA3. ISSN: 0021-9258.
FS BA; OLD
LA English
AB Porcine heart mitochondrial malate dehydrogenase (L-malate:NAD+ oxidoreductase, EC 1.1.1.37) was immobilized by covalent attachment to CNBr-activated Sepharose 4B-CL gel. The gel was activated with low levels of CNBr to produce a low density of linkage sites and, hence, to facilitate linkage of the enzyme through a single subunit. Matrix-bound mitochondrial malate dehydrogenase possessed 50-65% of the native mitochondrial malate dehydrogenase specific activity when assayed in the NAD+ .fwdarw. NADH direction but only 5-15% of the native enzyme specific activity when assayed in the NADH .fwdarw. NAD+ direction. MB-dimeric mitochondrial malate dehydrogenase was dissociated to MB-monomer by exposure to pH 5.0 buffer. The MB-monomer was catalytically active, possessing only a slightly decreased specific activity when compared to MB-dimer. The reconstitution of MB-monomer to MB-dimer was accomplished by adding dissociated mitochondrial malate dehydrogenase, which exists at pH 5.0, to MB-monomer and adjusting to pH 7.5. The kinetic parameters, pH

activity profile and stability toward heat denaturation for MB-mitochondrial malate dehydrogenase (monomer and dimer) were determined and compared to native mitochondrial malate dehydrogenase. MB-mitochondrial malate dehydrogenase exhibited enhanced stability and similar pH activity profiles when compared to native mitochondrial malate dehydrogenase. Immobilization of mitochondrial malate dehydrogenase altered the enzyme's kinetic parameters in such a manner as to increase the values of Km for the substrates and decrease the values of Vmax.

L22 ANSWER 12 OF 15 HCAPLUS COPYRIGHT 2002 ACS
AN 1981:135010 HCAPLUS
DN 94:135010
TI The immobilization of mitochondrial malate dehydrogenase on Sepharose **beads** and the demonstration of catalytically active subunits
AU **Jurgensen, Stewart R.**; Wood, David C.; Mahler, John C.; Harrison, John H.
CS Dep. Biochem., Univ. North Carolina, Chapel Hill, NC, 27514, USA
SO J. Biol. Chem. (1981), 256(5), 2383-8
CODEN: JBCHA3; ISSN: 0021-9258
DT Journal
LA English
AB Porcine heart mitochondrial malate dehydrogenase (EC 1.1.1.37) (I) was immobilized by covalent attachment to CNBr-activated Sepharose 4B-CL gel. The gel was activated with low levels of CNBr to produce a low d. of linkage sites and, hence, to facilitate linkage of the enzyme through a single subunit. Matrix-bound (MB) mitochondrial I possessed 50-65% of the native mitochondrial I specific activity when assayed in the NAD .fwdarw. NADH direction, but only 5-15% of the native enzyme specific activity when assayed in the NADH .fwdarw. NAD direction. MB-dimeric mitochondrial I was dissocd. to MB-monomer by exposure to pH 5.0 buffer. The MB-monomer was catalytically active, possessing only a slightly decreased specific activity when compared to MB-dimer. The reconstitution of MB-monomer to MB-dimer was accomplished by adding dissocd. mitochondrial I, which exists at pH 5.0, to MB-monomer and adjusting to pH 7.5. The kinetic parameters, pH-activity profile, and stability toward heat denaturation for MB-mitochondrial I (monomer and dimer) were detd. and compared to native mitochondrial I. MB-mitochondrial I exhibited enhanced stability and similar pH-activity profiles when compared to native mitochondrial I. Immobilization of mitochondrial I altered the enzyme's kinetic parameters in such a manner as to increase the values of Km for the substrates and decrease the values of Vmax.

L22 ANSWER 13 OF 15 WPIDS (C) 2002 THOMSON DERWENT
AN 1996-151528 [15] WPIDS
DNN N1996-127283
TI Data block storage method for e.g digital words representing exponents of polynomial expression - storing blocks of data elements in two-dimensional address space such that blocks overlap in address space, and segmenting overlapping data block into sub-blocks which are **separated** by null regions.
DC T01
IN **LLOYD, S**; LLOYD, S E; WANG, S T
PA (MOTI) MOTOROLA INC
CYC 64
PI WO 9606394 A1 19960229 (199615)* EN 22p
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TT UA UG UZ VN
AU 9644655 A 19960314 (199625)

US 5802522 A 19980901 (199842)
ADT WO 9606394 A1 WO 1995-US8044 19950626; AU 9644655 A AU 1996-44655 19950626; US 5802522 A Cont of US 1994-296041 19940823, US 1996-775470 19961230
FDT AU 9644655 A Based on WO 9606394
PRAI US 1994-296041 19940823; US 1996-775470 19961230
AB WO 9606394 A UPAB: 19960417
The method for storing a number of data blocks in memory involves identifying at least one common data element between a first and second data block of a data block comprising a number of data elements, and forming a modified first data block by segmenting the first data block into a number of sub-blocks **separated** by at least one null region. The modified first data block and second data block are stored in memory such that the one common data element is stored in a single area in the memory unit.

The null region includes a column and row of null data elements, and each of the data elements is a digital word which is an integer (N) bits in length, and each of the number of data elements included in one of the data blocks represents an exponent in a polynomial expression.

USE/ADVANTAGE - Identifying common data element in data blocks for storage. Reduces amount of address space needed to store data in memory, and amount of time needed to load data into memory. Reduces need to swap data blocks between memory and mass storage **device**.
Dwg.6/6

L22 ANSWER 14 OF 15 WPIDS (C) 2002 THOMSON DERWENT
AN 1993-190117 [24] WPIDS
DNC C1993-084140
TI Probe for detecting and isolating 15 serotype(s) of chlamydia trachomatis - comprises specific nucleic acid sequences, modified backbone, nucleotide, labelled and ribonucleic acid forms, for amplifying major outer membrane protein gene.
DC B04 D16
IN FRAISER, M S; **JURGENSEN, S R**; MALINOWSKI, D P
PA (BECT) BECTON DICKINSON CO
CYC 6
PI EP 546761 A1 19930616 (199324)* EN 19p
R: DE FR GB SE
AU 9228447 A 19930617 (199331)
CA 2083740 A 19930612 (199335)
ADT EP 546761 A1 EP 1992-310998 19921202; AU 9228447 A AU 1992-28447 19921117; CA 2083740 A CA 1992-2083740 19921125
PRAI US 1991-806933 19911211
AB EP 546761 A UPAB: 19931116
The probes (I), the modified backbone, modified nucleotide, labelled and RNA forms, comprise 21 specified sequences.

USE/ADVANTAGE - Used for detecting and/or amplifying a major outer membrane protein (MOMP) gene of C. trachomatis. This detection is simple, rapid and cost-effective.

In an example, elementary bodies from C. trachomatis serovar L2 were serially diluted into polymerase chain reaction (PCR) buffer, and probes 1 and 2 (above) were prepd.. Samples were heated at 94 deg. C for 1 min.; cooled to 37 deg.C for 2 mins.; and heated to 72 deg.C for 3 mins.. This cycle was repeated 25 times.

After PCR, the samples were analysed by agarose gel electrophoresis with ethidium bromide staining. This resulted in the presence of Chlamydia MOMP target. PCR-amplified MOMP DNA was detectable using a magnetic **bead** assay.
Dwg.0/0

L22 ANSWER 15 OF 15 WPIDS (C) 2002 THOMSON DERWENT
AN 1992-366448 [44] WPIDS
DNN N1992-279264
TI **Apparatus** for sensing position over two dimensional surface - has indicator element moved across pattern and sensor detects location of element.
DC T04
IN BURNS, J; **LLOYD, S**; **LLOYD, S A**
PA (HEWP) HEWLETT-PACKARD CO
CYC 16
PI WO 9217859 A1 19921015 (199244)* EN 103p
RW: AT BE CH DE DK ES FR GB GR IT LU MC NL SE
W: JP US
EP 578692 A1 19940119 (199403) EN 2p
R: DE ES FR GB IT NL
JP 06506080 W 19940707 (199431) 1p
EP 578692 B1 19950614 (199528) EN 84p
R: DE ES FR GB IT NL
DE 69202975 E 19950720 (199534)
US 5442147 A 19950815 (199538) 58p
ADT WO 9217859 A1 WO 1992-GB594 19920403; EP 578692 A1 EP 1992-907613 19920403, WO 1992-GB594 19920403; JP 06506080 W JP 1992-506964 19920403, WO 1992-GB594 19920403; EP 578692 B1 EP 1992-907613 19920403, WO 1992-GB594 19920403; DE 69202975 E DE 1992-602975 19920403, EP 1992-907613 19920403, WO 1992-GB594 19920403; US 5442147 A WO 1992-GB594 19920403, US 1993-117200 19930915
FDT EP 578692 A1 Based on WO 9217859; JP 06506080 W Based on WO 9217859; EP 578692 B1 Based on WO 9217859; DE 69202975 E Based on EP 578692, Based on WO 9217859; US 5442147 A Based on WO 9217859
PRAI GB 1991-6990 19910403; GB 1991-20982 19911003
AB WO 9217859 A UPAB: 19931006
The position sensing **appts**. has a pattern element, an indicator element, a sub-pattern detector and a position determining system. The pattern element has an arrangement of indicia that together present a two dimensional pattern having features that make the pattern a windowing pattern. The indicator element is moveable relative to the pattern element across the arrangement of indicia.

The sub-pattern detector includes a sensor for sensing the indicia such that for any one position of the indicator element, the sensor senses a portion of the pattern which lies in the locality of the indicator element. The position determination system includes a memory holding pattern data which is representative of the windowing pattern. Using the sub-pattern data the position determining system is able to determine the position of the indicator element relative to the pattern element.

ADVANTAGE - Transparent document overlay can be provided to permit document to be traced into electronic format.

1/34

Alex Waclawiw

Access DB# 68395

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: My-Chau Tran Examiner #: 78933 Date: 6/8/02
Art Unit: 1641 Phone Number 30 5-6999 Serial Number: 09/756,590
Mail Box and Bldg/Room Location: CM1-8A16 Results Format Preferred (circle): PAPER DISK (E-MAIL)
7E12

If more than one search is submitted, please prioritize searches in order of need.

****

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Method of Separating cells from a sample

Inventors (please provide full names): Stewart Russell Jurgensen and Sheila Ann Lloyd

Earliest Priority Filing Date: 1/8/2001

***For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.**

Alex,

I have enclose independent claims 19 + 31 and Abstract to use as an aid in the search. Note claims 19 + 31 are drawn to a method, please don't search for a method.

I'm searching for a device that separate cells (tumor and/or blood) that uses centrifugation and beads (microbeads). The cells bind to beads that is coated w/ antibody. Note: These are limitations of claims 19 + 31. Also, please perform an inventor search.

Thank-you

Considered 8/19/02

=> d his

(FILE 'HCAPLUS' ENTERED AT 11:06:39 ON 17 JUN 2002)
DEL HIS Y
SET SFIELD BI

L1	664	S	CENTRIF? (L) FLOAT?
L2	1297579	S	APP# OR APPARATUS OR DEVICE# OR SEPARATOR#
			SET SFIELD BI
L3	137600	S	(CELL# OR FLUID# OR BLOOD) (L) (SEPN OR SEPARAT?)
L4	71	S	L1 AND L3
L5	122	S	L1 AND L2
L6	182	S	L4 OR L5
L7	4	S	ANTIBOD? AND L6
L8	11	S	L1 AND L3 AND L2
L9	138616	S	MICROBEAD# OR BEAD# OR SPHERE# OR MICROSPHERE#
L10	3	S	L6 AND L9
L11	916520	S	PARTICLE# OR MICROPARTICLE#
L12	38	S	L6 AND L11
L13	11	S	L4 AND L11
L14	24	S	L13 OR L8 OR L10
L15	139585	S	CENTRIF?
L16	9214	S	L15 AND L3
L17	169	S	L16 AND L9
L18	47	S	L17 AND ANTIBOD?
L19	6	S	L18 AND L2
L20	1	S	L1 AND L15 AND L9 AND ANTIBOD?
L21	24	S	L20 OR L14
L22	1026359	S	L9 OR L11
L23	2456	S	L22 (L) ANTIBOD? (L) COAT?
L24	0	S	L1 AND L23
L25	93	S	L15 AND L23
L26	24	S	L25 AND L3
L27	2	S	L26 AND (FLOAT? OR FLOAT?/AB OR INSERT? OR INSERT?/AB OR L2)
L28	2	S	L27 OR LL21
L29	26	S	L27 OR L21

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=> fil hcaplus
FILE 'HCAPLUS' ENTERED AT 11:38:31 ON 17 JUN 2002
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 17 Jun 2002  VOL 136 ISS 25
FILE LAST UPDATED: 16 Jun 2002  (20020616/ED)

 This file contains CAS Registry Numbers for easy and accurate
 substance identification.

CAS roles have been modified effective December 16, 2001. Please
check your SDI profiles to see if they need to be revised. For
information on CAS roles, enter HELP ROLES at an arrow prompt or use
the CAS Roles thesaurus (/RL field) in this file.

=> d his

     (FILE 'HCAPLUS' ENTERED AT 11:06:39 ON 17 JUN 2002)
               DEL HIS Y
               SET SFIELD BI
L1          664 S CENTRIF? (L) FLOAT?
L2      1297579 S APP# OR APPARATUS OR DEVICE# OR SEPARATOR#
               SET SFIELD BI
L3       137600 S (CELL# OR FLUID# OR BLOOD) (L) (SEPN OR SEPARAT?)
L4           71 S L1 AND L3
L5          122 S L1 AND L2
L6          182 S L4 OR L5
L7            4 S ANTIBOD? AND L6
L8           11 S L1 AND L3 AND L2
L9       138616 S MICROBEAD# OR BEAD# OR SPHERE# OR MICROSPHERE#
L10           3 S L6 AND L9
L11      916520 S PARTICLE# OR MICROPARTICLE#
L12          38 S L6 AND L11
L13          11 S L4 AND L11
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L16        9214 S L15 AND L3
L17         169 S L16 AND  L9
L18          47 S L17 AND ANTIBOD?
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L20           1 S L1 AND L15 AND L9 AND ANTIBOD?
L21          24 S L20 OR L14
L22     1026359 S L9 OR L11
L23        2456 S L22 (L) ANTIBOD? (L) COAT?
L24           0 S L1 AND L23
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L25           93 S L15 AND L23
L26           24 S L25 AND L3
L27            2 S L26 AND (FLOAT? OR FLOAT?/AB OR INSERT? OR INSERT?/AB OR  L2)
L28            2 S L27 OR LL21
L29           26 S L27 OR L21

     FILE 'HCAPLUS' ENTERED AT 11:38:31 ON 17 JUN 2002

=> d que L29
L1           664 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CENTRIF? (L) FLOAT?
L2       1297579 SEA FILE=HCAPLUS ABB=ON  PLU=ON  APP# OR APPARATUS OR DEVICE#
                 OR SEPARATOR#
L3        137600 SEA FILE=HCAPLUS ABB=ON  PLU=ON  (CELL# OR FLUID# OR BLOOD)
                 (L) (SEPN OR SEPARAT?)
L4            71 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L3
L5           122 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L2
L6           182 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L4 OR L5
L8            11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L3 AND L2
L9        138616 SEA FILE=HCAPLUS ABB=ON  PLU=ON  MICROBEAD# OR BEAD# OR
                 SPHERE# OR MICROSPHERE#
L10            3 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L6 AND L9
L11       916520 SEA FILE=HCAPLUS ABB=ON  PLU=ON  PARTICLE# OR MICROPARTICLE#
L13           11 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L4 AND L11
L14           24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L13 OR L8 OR L10
L15       139585 SEA FILE=HCAPLUS ABB=ON  PLU=ON  CENTRIF?
L20            1 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L1 AND L15 AND L9 AND
                 ANTIBOD?
L21           24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L20 OR L14
L22      1026359 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L9 OR L11
L23         2456 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L22 (L) ANTIBOD? (L) COAT?
L25           93 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L15 AND L23
L26           24 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L25 AND L3
L27            2 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L26 AND (FLOAT? OR FLOAT?/AB
                 OR INSERT? OR INSERT?/AB OR  L2)
L29           26 SEA FILE=HCAPLUS ABB=ON  PLU=ON  L27 OR L21


=> d .ca 1-26

L29  ANSWER 1 OF 26  HCAPLUS  COPYRIGHT 2002 ACS
ACCESSION NUMBER:         2001:432840  HCAPLUS
DOCUMENT NUMBER:          135:21310
TITLE:                    Device and method for separating
                          components of a fluid sample
INVENTOR(S):              Dicesare, Paul C.; Radziunas, Jeffrey P.; Losada,
                          Rober Joseph; Lin, Fu-Chung
PATENT ASSIGNEE(S):       Becton, Dickinson and Company, USA
SOURCE:                   Eur. Pat. Appl., 16 pp.
                          CODEN: EPXXDW
DOCUMENT TYPE:            Patent
LANGUAGE:                 English
FAMILY ACC. NUM. COUNT:   1
PATENT INFORMATION:

     PATENT NO.        KIND  DATE          APPLICATION NO.  DATE
     ---------------   ----  --------      ---------------  --------
     EP 1106253         A2   20010613      EP 2000-126243   20001201
         R:  AT, BE, CH, DE, DK, ES, FR, GB, GR, IT, LI, LU, NL, SE, MC, PT,
             IE, SI, LT, LV, FI, RO
     JP 2001224982      A2   20010821      JP 2000-371796   20001206
```

PRIORITY APPLN. INFO.: US 1999-169092P P 19991206

AB A **device** and method for **sepg**. heavier and lighter fractions of a **fluid** sample is described. The **device** includes a plurality of constituents comprising a container and a composite element in the container. The composite element is a **separator** comprising a deformable bellows, a ballast mounted to the lower end of the bellows, and a **float** is engageable with an upper end of the bellows. A **fluid** sample is delivered to the container and the **device** is subjected to **centrifugation** whereby the **centrifugal** load causes the ballast to move toward the bottom of the tube and causes an elongation and narrowing of the bellows. The **separator** then moves down the tube and stabilizes in a position between the **sepd**. phases of the **fluid** sample. Termination of the **centrifugal** load enables the bellows to return to its original condition in sealing engagement with the walls of the tube. The dense formed phase of the **fluid** sample will lie between the **separator** and the bottom of the tube, while less dense liq. phase of the **fluid** sample will be the **separator**.

IC ICM B01L003-14

CC 47-2 (Apparatus and Plant Equipment)
Section cross-reference(s): 9, 13, 48, 63

ST **fluid** sample **sepn** system; **blood** sample **sepn** system

IT **Blood**
Blood analysis
Blood serum
Centrifugation
Centrifuges
Fluids
Pipes and Tubes
Samples
Separators
(**device** and method for **sepg**. components of a **fluid** sample including **blood**)

L29 ANSWER 2 OF 26 HCAPLUS COPYRIGHT 2002 ACS

ACCESSION NUMBER: 2000:482365 HCAPLUS

TITLE: Assembly and method for component disjunction of fluid sample. [Machine Translation].

INVENTOR(S): Miller, Henri-

PATENT ASSIGNEE(S): Becton, Dickinson and Company, USA

SOURCE: Jpn. Kokai Tokkyo Koho, 66 pp.
CODEN: JKXXAF

DOCUMENT TYPE: Patent

LANGUAGE: Japanese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 2000199760	A2	20000718	JP 1999-346950	19991206

PRIORITY APPLN. INFO.: US 1998-110928P P 19981205
US 1998-110934P P 19981205

AB [Machine Translation of Descriptors]. The **fluid** sample in the heavy part and the light part it is a **device** and a method in order the **separation** to do. This **device** includes the plural components which have with the composite element inside the container and the container. The composite element, at least two component partses, compared to in detail, is the bellows, the low density

float and has the high density ballast the **separation** body which accompany the seal true form. The **fluid** sample is distributed by the container, can apply on the **centrifugal separation** the **device**. With that, the **centrifugal separation** load the deformation points to the seal true form of the **separation** body, through the **fluid** sample, to move the **separation** body, the **fluid** sample heavy and stabilizes between Karube amount. The seal true form of the **separation** body returns to the first form elastically with the end of the **centrifugal separation** load, the seal true form seals engages in the container, the **fluid** sample heavy and Karube amount the **separation** does the composite element.

IC ICM G01N033-48
ICS B01D017-038; B01L003-14; B04B005-02; G01N001-10

L29 ANSWER 3 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1999:160105 HCAPLUS
DOCUMENT NUMBER: 130:234338
TITLE: Gel material for **blood separation** and **blood separator**.
INVENTOR(S): Imai, Hiroyuki; Kanda, Hideko; Shibuta, Daisuke; Katano, Hideomi
PATENT ASSIGNEE(S): Mitsubishi Materials Corp., Japan; Katano Senkaku K. K.
SOURCE: Jpn. Kokai Tokkyo Koho, 7 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 11064330	A2	19990305	JP 1997-226515	19970822

AB An improvement is made on the quality of **blood sepn.** gel material which is placed in a small amt. in a **blood** collecting tube so that serum and **blood** clot are easily **sepd.** upon **centrifugation** of **blood**. This gel material shows better **floating** and plugging properties due to low viscosity. An improved heat resistance and suppressed absorption of drugs in the **blood** are obsd. The compns. of the gel material are 100 wt. part of hydrophobic liq. resin with 0.80.apprx.1.00 sp. gr. (e.g. polybutene), 3.apprx.50 wt. part of viscosity additive (e.g. olefin- or diolefin-polymer), 1.apprx.30 wt. part of inorg. deposit (e.g. talc), 1.apprx.10 wt. part of thixotropy additive (e.g. alkylammonium-denatured stratified clay mineral) and 1.apprx.10 wt. part of silane coupling agent.

IC ICM G01N033-48
ICS G01N033-48
CC 9-9 (Biochemical Methods)
Section cross-reference(s): 1
ST gel serum **blood** clot **sepn**
IT Clay minerals
RL: NUU (Other use, unclassified); USES (Uses)
(alkylammonium-denatured stratified; gel material for **blood sepn.** and **blood separator**)
IT Absorption
Blood
Blood analysis
Blood serum

Centrifugation
Drugs
Gels
Pharmaceutical analysis
Separation
Talc deposits
Thermal resistance
Thixotropy
Thrombus
Viscosity
(gel material for **blood sepn.** and **blood separator**)

IT Polyolefins
Silanes
RL: NUU (Other use, unclassified); USES (Uses)
(gel material for **blood sepn.** and **blood separator**)

IT Polymers, uses
RL: NUU (Other use, unclassified); USES (Uses)
(olefin and diolefin; gel material for **blood sepn.** and **blood separator**)

IT Cycloalkadienes
RL: NUU (Other use, unclassified); USES (Uses)
(polymer; gel material for **blood sepn.** and **blood separator**)

IT Coupling agents
(silane; gel material for **blood sepn.** and **blood separator**)

IT Clays, uses
RL: NUU (Other use, unclassified); USES (Uses)
(smectitic; gel material for **blood sepn.** and **blood separator**)

IT 52-86-8, Haloperidol 137-58-6, Lidocaine
RL: ANT (Analyte); PEP (Physical, engineering or chemical process); ANST (Analytical study); PROC (Process)
(gel material for **blood sepn.** and **blood separator**)

IT 4420-74-0, .gamma.-Mercaptopropyltrimethoxysilane 9003-28-5, 1-Butene, homopolymer
RL: NUU (Other use, unclassified); USES (Uses)
(gel material for **blood sepn.** and **blood separator**)

L29 ANSWER 4 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1998:185038 HCAPLUS
DOCUMENT NUMBER: 128:305869
TITLE: Innovative two-step negative selection of granulocyte colony-stimulating factor-mobilized circulating progenitor cells: adequacy for autologous and allogeneic transplantation
AUTHOR(S): Rambaldi, Alessandro; Borleri, Gianmaria; Dotti, Gianpietro; Bellavita, Piermario; Amaru, Ricardo; Biodi, Andrea; Barbui, Tiziano
CORPORATE SOURCE: Divisione Ematologia Centro Trasfusionale, Ospedali, Riuniti Bergamo, Bergamo, Italy
SOURCE: Blood (1998), 91(6), 2189-2196
CODEN: BLOOAW; ISSN: 0006-4971
PUBLISHER: W. B. Saunders Co.
DOCUMENT TYPE: Journal
LANGUAGE: English

AB A major obstacle in purifying either autologous or allogeneic hematopoietic stem **cells** from granulocyte colony-stimulating factor (G-CSF) mobilized circulating progenitor **cells** (CPC) is represented by the huge cellularity present in each apheretic product. To obtain a significant debulking of unwanted **cells** from the leukapheresis, we developed a modified protocol of immune rosetting whereby human ABO-Rh-compatible red **blood cells** (RBCs) are treated with chromium chloride and then **coated** with murine monoclonal **antibodies** (MoAbs) against leukocyte antigens. When expts. were performed with leukaphereses obtained from normal donors or from T-**cell** acute lymphoblastic leukemia (T-ALL) patients, RBCs were **coated** with murine MoAbs against human mature myeloid **cells** (CD11b) and T **cells** (CD6); whereas, in the case of patients with B-precursor ALL, B-**cell** non-Hodgkin's lymphoma (B-NHL), or multiple myeloma (MM), RBCs were **coated** with anti-CD11b only. After incubation with CPC, rosetting **cells** (myeloid precursor **cells**, granulocytes, monocytes, and T **cells**) were removed by Ficoll-Hypaque d. gradient **centrifugation** with a **blood cell** processor **app**., COBE (Lakewood, CO) 2991. After this step, a significant redn. of the initial cellularity was consistently obtained (range, 72% to 97%), whereas the median abs. recovery of the CD34+ **cells** was above 85% (range, 64 to 100), with a 10-fold relative enrichment ranging from 3% to 41%. In a second step, CPC can be further purged of contaminating T or B **cells** by incubation with lymphoid-specific magnetic **microbeads** (anti-CD2 and -CD7 to remove T **cells** ; anti-CD19 to remove B **cells**) and elution through a type-D depletion column (composed of ferromagnetic fiber) **inserted** within a SuperMACS **separator device** (Miltenyi Biotech, Bergisch-Gladbach, Germany). By this approach, a highly effective (three to four logs) T-**Cell** depletion was achieved in all expts. performed with normal donors or T-ALL patients (median loss of CD3+ **cells**: 99.8% [range 99.2 to 100]) and an equally efficient B-**cell** depletion was obtained from B-precursor ALL, B-NHL, or MM patients. At the end of the procedure the T- or B-**cell** depleted fraction retained a high proportion of the initial hematopoietic CD34+ stem **cells**, with a median recovery above 70% (range 48% to 100%) and an unmodified clonogenic potential. In five patients (two follicular NHL and three ALL) the purified fraction of stem **cells** was found disease free at the mol. level as assessed by polymerase chain reaction (PCR) anal. of the t(14;18) chromosome translocation or clono-specific DNA sequences of IgH or T-**cell** receptor .gamma. and .delta. chain genes. Purified autologous and allogeneic CPCs were transplanted in three and six patients, resp., who showed a prompt and sustained hematol. engraftment. In conclusion, this method represents a simple and reproducible two-step procedure to obtain a highly efficient purging of T or B **cells** from G-CSF expanded and mobilized CPCs. This approach might lead to the eradication of the neoplastic clone in the autologous stem **cell** inoculum as well as for T-**cell** depletion during allogeneic transplantation.

CC 9-16 (Biochemical Methods)
Section cross-reference(s): 15

L29 ANSWER 5 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1997:375258 HCAPLUS
DOCUMENT NUMBER: 127:62841
TITLE: Assay of blood or other biologic samples for target analytes
INVENTOR(S): Levine, Robert A.; Wardlaw, Stephen C.; Rodriguez, Rodolfo R.; Malick, Adrien P.; Ozinskas, Alvydas J.

PATENT ASSIGNEE(S): Becton Dickinson and Co., USA
SOURCE: U.S., 8 pp., Cont.-in-part of U.S. 5,342,790.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 5635362	A	19970603	US 1994-247336	19940523
US 5342790	A	19940830	US 1992-969379	19921030
AU 9348709	A1	19940512	AU 1993-48709	19930930
AU 668212	B2	19960426		
CA 2109461	AA	19940501	CA 1993-2109461	19931028
FI 9304804	A	19940501	FI 1993-4804	19931029
NO 9303919	A	19940502	NO 1993-3919	19931029
CN 1088310	A	19940622	CN 1993-119654	19931029
JP 06281651	A2	19941007	JP 1993-272591	19931029
AT 197993	E	20001215	AT 1993-308642	19931029
ES 2152243	T3	20010201	ES 1993-308642	19931029
US 5460979	A	19951024	US 1994-192629	19940207
US 5834217	A	19981110	US 1996-763858	19961211
US 5759794	A	19980602	US 1996-771506	19961223
US 5776710	A	19980707	US 1996-771507	19961223

PRIORITY APPLN. INFO.: US 1992-969379 A2 19921030
US 1994-247336 A3 19940523

AB A patient's health may be diagnosed by **centrifuging** **blood** samples in a transparent tube, which tube contains one or more bodies or groups of bodies such as **floats**, inserts, liposomes, or plastic **beads** of different densities. Each d.-defined body carries analyte-capture binding materials such as antigens or **antibodies**, which are specific to an epitope, or other specific high affinity binding site on a target analyte which target analyte may be in the **blood** or other sample being tested; and the level of which analyte is indicative of the patient's health. At least one labeled binding material which is also specific to an epitope, or other specific high affinity binding site on the target analyte is added to the sample so as to form labeled binding material/analyte/body complexes in the sample. Upon **centrifugation**, the complexes will settle out in different areas in the tube according to the resp. d. of the body or bodies, and the degree of label emission of the complex layers can enable qual. and/or quant. analyses of the sample to be made. Unbound labeled binding materials will be **sepd**. from the complexed layers by the washing action of ascending or descending components of the sample during the **centrifugation** step. Unbound labeled binding material will thus not interfere with the anal.

IC ICM G01N033-543
ICS G01N033-558
NCL 435007240
CC 9-1 (Biochemical Methods)
ST blood disease cell analysis **app**
IT **Apparatus**
Blood analysis
(assay of blood or other biol. samples for target analytes)

L29 ANSWER 6 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:416487 HCAPLUS
TITLE: Barrier polymer design in blood drug sampling
AUTHOR(S): Wetzel, Wylie H.; Glass, J. Edward

CORPORATE SOURCE: Polymers and Coatings Department, North Dakota State University, Fargo, ND, 58105, USA
SOURCE: Book of Abstracts, 212th ACS National Meeting, Orlando, FL, August 25-29 (1996), PMSE-292. American Chemical Society: Washington, D. C.
CODEN: 63BFAF
DOCUMENT TYPE: Conference; Meeting Abstract
LANGUAGE: English

AB It is a common hospital practice to collect **blood** in serum **separator** tubes which are **centrifuged** and stored at room temp. until analyzed for a variety of materials including drug levels. With the uncertainty in the time of anal. after sampling, it is important that the components remain in the upper layer for uniform sampling until analyzed. Polymers can form a barrier to inhibit the migration. To accomplish this they must meet a no. of requirements: 1. a d. of 1.02 g/cc to partition between the two layers immediately after **centrifugation**. 2. polymer should flow into the interface, where it will function as an immobile barrier. This suggests that the film possess a yield stress, for it must flow during the **sepn**. process, which dictates a low viscosity. These combined properties suggest 3. that the polymer structure should be branched and in an intermediate mol. wt. range. 4. Furthermore, the mol. wt. of the polymer migration inhibitor film should be narrower than realized in most poly-merization processes, for low mol. wt. fraction would likely **float** to the top of the tube and plug the sample needle used in most mechanized sample analyses. These criteria are addressed by studying component influences. It was obsd. that two sets of components, adipic acid with polyetherdiols polypropylene glycol with terminal oxyethylene end caps or with polyoxytetramethylene (M. Wt. 650 and 1000) and dodecandioic with 2,2-dimethyl-1,3-propane diol met all of the criteria except the last.

L29 ANSWER 7 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1996:365211 HCAPLUS
DOCUMENT NUMBER: 125:39810
TITLE: On the producing process and **apparatuses** for the hollow glass **microspheres**
AUTHOR(S): Kimura, Kunio; Okada, Hiromi
CORPORATE SOURCE: Kyuhsu Natl. Ind. Res. Inst., Tosu, 841, Japan
SOURCE: Kyushu Kogyo Gijutsu Kenkyusho Hokoku (1996), 56, 3507-14
CODEN: KKOHE5; ISSN: 1340-3958
DOCUMENT TYPE: Journal
LANGUAGE: Japanese

AB Silt of Nakano (Nakano Hakudo) of Fukushima Pref. of Japan, was sepd. through hydraulic elutriation with (NaPO3)6 of 0.1%, and particles below 10 .mu.m were hydrothermally treated in 6% HCl at 180.degree.C for 48 h. The treated particles were transferred by rising air flow of 200 mm/s into a heating area of 1000-1100.degree.C, and the product was ultrasonically dispersed in water and **centrifugally** sepd., and the water **floated** portion was reclaimed as the hollow **microspheres** . The strength of the **microspheres** was measured as the ratio of the water **floating** portion after hydraulic pressure treatment.

CC 57-1 (Ceramics)
ST glass **microsphere** prepn property
IT Recycling
(of silt in manuf. of hollow glass **microspheres**)
IT Silt
(raw material; prepn. and properties of hollow glass **microspheres** using silt starting material)

IT Glass, oxide
RL: PEP (Physical, engineering or chemical process); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); PROC (Process)
(**microspheres**, hollow; prepn. and properties of hollow glass **microspheres** using silt starting material)
IT 10361-03-2, Metaphosphoric acid (HPO3), sodium salt
RL: TEM (Technical or engineered material use); USES (Uses)
(dispersing agent; prepn. and properties of hollow glass **microspheres** using silt starting material)

L29 ANSWER 8 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1992:197307 HCAPLUS
DOCUMENT NUMBER: 116:197307
TITLE: Centrifugal oil/water/gas **separator**
AUTHOR(S): Anon.
CORPORATE SOURCE: UK
SOURCE: Res. Discl. (1992), 334, 124-5
CODEN: RSDSBB; ISSN: 0374-4353
DOCUMENT TYPE: Journal
LANGUAGE: English
AB A **centrifugal separator** is given for the treatment of mixts. of oil, water, and gas, as from a well-drilling core. The **app**. has small U-tubes inside 2 stacked disks that are mounted on the shaft of an electromotor, driven at high rpm; the legs of the U-tubes are slightly unequal in length, positioned radially, and sloping up. The leg openings point to the center of rotation. The mixt. is introduced into the top disk; the liqs. pass through the top U-tube, but the gas is blocked by the liqs. and is recovered and measured. The liqs. move to the 2nd disk, where oil is sepd. from water; in the long legs of the bottom U-tubes, the oil **floats** and is recovered by overflow.
CC 51-3 (Fossil Fuels, Derivatives, and Related Products)
Section cross-reference(s): 47, 48
ST centrifuge **fluid** phase **sepn**; drill core **fluid** centrifugation
IT Petroleum prospecting
(drill-core **fluid sepn**. in, centrifuges for)

L29 ANSWER 9 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1989:237172 HCAPLUS
DOCUMENT NUMBER: 110:237172
TITLE: Antigens or antibodies linked to milk fat globules for pharmaceutical and immunoassay applications
INVENTOR(S): Bankert, Richard B.; Repasky, Elizabeth A.
PATENT ASSIGNEE(S): USA
SOURCE: Eur. Pat. Appl., 14 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 306971	A2	19890315	EP 1988-114773	19880909
EP 306971	A3	19901003		
R: AT, BE, CH, DE, ES, FR, GB, GR, IT, LI, LU, NL, SE				
US 4994496	A	19910219	US 1987-94515	19870909
US 5017472	A	19910521	US 1987-94520	19870909
AU 8822012	A1	19890309	AU 1988-22012	19880908
AU 614537	B2	19910905		

JP 02000115 A2 19900105 JP 1988-224876 19880909
PRIORITY APPLN. INFO.: US 1987-94515 19870909
US 1987-94520 19870909

AB A carrier for the transport of drugs in a mammalian system comprises milk fat globules. Also, a flotation immunoassay using a buoyant matrix to which an antigen or antibody is coupled and which **separates** the bound and free products of the assay by **floating** to the surface of the reaction liq., is described. The flotation **device** makes it possible to detect and quantitate either antigens or antibody and it can be used to fractionate **cells** and mols. Milk fat globules were removed from raw bovine milk by **centrifugation** and 0.9 mL globules were incubated with 0.1 mL adriamycin soln. (1 mg/mL); the resulting compn. was washed with phosphate-buffered saline and the adriamycin-milk fat globule compn. was mixed with phosphate-buffered saline to a final concn. of 20% and stored at room temp. The amt. of adriamycin incorporated into the milk fat globules was 80%. Oxidized dextran was coupled to milk fat globules and stabilized by treatment with borohydride to give reduced dextran-milk fat globules. Sheep erythrocytes were treated with pyridyldithiopropionate-modified MOPC 104E monoclonal antibodies and the resulting anti-dextran erythrocytes were brought to a concn. of 10% vol./vol. in phosphate-buffered saline. The efficiency of coupling could be assessed by incubating anti-dextran erythrocytes with anti-MOPC 104E antibody. A suspension contg. anti-dextran erythrocytes and dextran-milk fat globules was incubated and a red ring was obsd. at the top of the tube; when control erythrocytes, i.e. free of dextran, were added, no ring formed and the red color assocd. with Hb remained at the bottom of the tube. The addn. of a test sample to the anti-dextran antibodies resulted in the binding of the dextran-milk fat globules and inhibited binding of the indicator erythrocytes to the milk fat globules; in the presence of anti-dextran antibodies the milk fat globule ring at the top of the tube is white and the indicator **cells** fall to the bottom of the tube.

IC ICM A61K009-50
ICS G01N033-531

CC 63-6 (Pharmaceuticals)
Section cross-reference(s): 9

L29 ANSWER 10 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1988:146554 HCAPLUS
DOCUMENT NUMBER: 108:146554
TITLE: Isolation of messenger RNA from membrane-bound polysomes
AUTHOR(S): Mechler, Bernard M.
CORPORATE SOURCE: Inst. Genet., Johannes Gutenberg Univ., Mainz, D-6500, Fed. Rep. Ger.
SOURCE: Methods Enzymol. (1987), 152(Guide Mol. Cloning Tech.), 241-8
CODEN: MENZAU; ISSN: 0076-6879
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Membrane-bound **cell** organelles, including the membrane-bound polysomes, are **sepd**. by isopycnic **centrifugation** in a discontinuous sucrose d. gradient which causes the flotation of the membrane vesicles and the partial sedimentation of the free ribosomal **particles**. This is achieved by adjusting the cytoplasmic ext. to a concn. of 2.1 M sucrose which is then loaded over a layer of 2.5 M sucrose in a **centrifuge** tube. Two successive layers of sucrose solns., one with 2.05 M sucrose and the second with 1.3 M sucrose, are then layered over the sample. During the **centrifugation**, all the membrane-contg. **cell** organelles **float** above the

2.05 M sucrose layer due to the low d. of the membranes, whereas the free polysomes, ribosomes, and mRNP **particles** sediment due to their high d.
CC 9-6 (Biochemical Methods)

L29 ANSWER 11 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1986:568325 HCAPLUS
DOCUMENT NUMBER: 105:168325
TITLE: Sequential flotation ultracentrifugation
AUTHOR(S): Schumaker, Verne N.; Puppione, Donald L.
CORPORATE SOURCE: Mol. Biol. Inst., Univ. California, Los Angeles, CA, 90024, USA
SOURCE: Methods Enzymol. (1986), 128(Plasma Lipoproteins, Pt. A), 155-70
CODEN: MENZAU; ISSN: 0076-6879
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Sepn. of plasma lipoprotein d. fractions by sequential flotation ultracentrifugation is discussed in ref. to addn. of anticoagulants and peroxidn. inhibitors, salt soln. requirements, sample calcns., and **app**. Specific recommendations are made for various aspects of the procedure, and advantages and disadvantages of the method are pointed out.
CC 9-6 (Biochemical Methods)
IT **Blood** analysis
(lipoprotein d. fractions **sepn**. in, of human and lab. animal by sequential flotation ultracentrifugation)
IT **Centrifugation**
(ultra-, sequential **floatation** in, lipoprotein d. fractions sepn. by, of plasma of human and lab. animal)

L29 ANSWER 12 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1985:163241 HCAPLUS
DOCUMENT NUMBER: 102:163241
TITLE: **Separation** of lymphocytes, granulocytes, and monocytes from human **blood** using iodinated density gradient media
AUTHOR(S): Boeyum, Arne
CORPORATE SOURCE: Div. Environ. Toxicol., Norw. Def. Res. Establ., Kjeller, 2007, Norway
SOURCE: Methods Enzymol. (1984), 108(Immunochem. Tech., Pt. G), 88-102
CODEN: MENZAU; ISSN: 0076-6879
DOCUMENT TYPE: Journal
LANGUAGE: English
AB Methods are described for the **sepn**. of lymphocytes, granulocytes, and monocytes from human **blood** which involve **sepn**. of **cells** from whole **blood** by d.-gradient **centrifugation** in Isopaque-Ficoll, with the mononuclear **cells** (monocytes and lymphocytes) **floating** on top after **centrifugation** and the granulocytes and erythrocytes in the pelleted fraction, followed by **sepn**. of granulocytes from the erythrocytes by washing with 0.9% NaCl and dextran sedimentation. Lymphocytes can be **sepd**. from monocytes based on the ability of monocytes to engulf Fe **particles**. The isolation of monocytes from leukocyte-rich plasma by using Nycodenz (an iodinated gradient medium)-NaCl solns. of varying d. and osmolality is also described.
CC 9-6 (Biochemical Methods)
ST **blood cell sepn** iodinated media; monocyte **sepn blood** iodinated gradient; lymphocyte **sepn blood** iodinated media; granulocyte **sepn blood**

iodinated media; centrifugation iodinated gradient **blood** **cell**; dextran sedimentation granulocyte **blood**

IT **Blood** corpuscle
Lymphocyte
Monocyte
(**sepn**. of, from **blood** of humans by centrifugation in iodinated d.-gradient media)

IT Leukocyte
(granulocyte, **sepn**. of, from **blood** of humans by centrifugation in iodinated d.-gradient media)

L29 ANSWER 13 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1984:468919 HCAPLUS
DOCUMENT NUMBER: 101:68919
TITLE: Tagged immunoassay
INVENTOR(S): Wang, Chia Gee
PATENT ASSIGNEE(S): Wang Associates, USA
SOURCE: U.S., 9 pp. Cont.-in-part 0f U.S. Ser. No. 313,711.
CODEN: USXXAM
DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 2
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 4454233	A	19840612	US 1981-331859	19811217
US 4436826	A	19840313	US 1981-313711	19811021

PRIORITY APPLN. INFO.: US 1981-313711 19811021

AB An immunoassay and **app**. are described for the detn. of (target) antigens or **antibodies** in biol. **fluids** or tissues. The method involves reacting the sample with reagent tagged **antibodies** or antigens which form a complex with the target compds. Preferably, the tagging elements have at. wt. >50 (e.g., Fe, Ni, Cu, Co) and are protected by embedding (e.g., by ion implantation, vapor **coating**) in latex **particles** of size <0.8 .mu.m, preferably <0.1 .mu.m. After **sepn**. of unreacted tagged latex **particles**, the complexes are concd. (e.g., by **centrifugation**, liq. chromatog., high-pressure liq. chromatog., electrophoresis, filtration) and detected by using spectrophotometry (e.g., dye laser spectrometry), x-ray fluorescence, or mass spectrometry. The method is simple and convenient and different target antigens or **antibodies** can be detd. simultaneously by using different tagged elements, which can be recovered for disposal or reuse.

IC G01N033-54
NCL 436525000
CC 9-2 (Biochemical Methods)
Section cross-reference(s): 15

L29 ANSWER 14 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:542301 HCAPLUS
DOCUMENT NUMBER: 97:142301
TITLE: Metabolism of apolipoprotein E in plasma high-density lipoproteins from normal and cholesterol-fed rats
AUTHOR(S): Van't Hooft, Ferdinand; Havel, Richard J.
CORPORATE SOURCE: Cardiovasc. Res. Inst., Univ. California, San Francisco, CA, 94143, USA
SOURCE: J. Biol. Chem. (1982), 257(18), 10996-1001
CODEN: JBCHA3; ISSN: 0021-9258
DOCUMENT TYPE: Journal

LANGUAGE: English
AB High-d. lipoproteins (HDL) of rat **blood** plasma were labeled in vitro with radioiodinated apolipoprotein E and biol. with [3H]cholesteryl esters. These 2 components, present in HDL **sepd**. from serum of normal or cholesterol-fed rats by mol. sieve chromatog., were removed slowly from perfused livers and the labeled apolipoprotein E was also removed slowly from the **blood** of intact rats. However, when labeled serum was subjected to ultracentrifugation at a d. of 1.21 g/mL before the **floating** apolipoprotein E-labeled HDL were **sepd**. by chromatog., the labeled protein was rapidly removed from the **blood** of intact rats by uptake into the liver. About 50% of the labeled apolipoprotein E assocd. with HDL was dissocd. during ultracentrifugation, but most of it reassocd. with these lipoproteins when the **floating** lipoproteins were remixed with the sedimented serum proteins. The apolipoprotein E in such reassocd. HDL was removed from the **blood** of intact rats at the slow rate obsd. when the HDL were **sepd**. chromatog. from whole serum. About 90% of the labeled apolipoprotein E in uncentrifuged or **centrifuged** HDL was shown by affinity chromatog. to be assocd. with **particles** contg. apolipoprotein A-I. Rapid hepatic uptake of apolipoprotein E in **centrifuged** HDL may result from an altered conformation of the apolipoprotein E on the **particle** surface.
CC 13-2 (Mammalian Biochemistry)
Section cross-reference(s): 18

L29 ANSWER 15 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1982:106872 HCAPLUS
DOCUMENT NUMBER: 96:106872
TITLE: Separation of coal macerals
AUTHOR(S): Dyrkacz, Gary R.; Horwitz, E. Philip
CORPORATE SOURCE: Chem. Div., Argonne Natl. Lab., Argonne, IL, 60439, USA
SOURCE: Fuel (1982), 61(1), 3-12
CODEN: FUELAC; ISSN: 0016-2361
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The conditions necessary for efficient small-scale **sepn**. of coal macerals were investigated. The method developed takes advantage of known d. differences of the various macerals; but unlike most **sepns**., an isopycnic d. gradient **centrifugation** (DGC) technique is used to isolate pure macerals. The technique consists of grinding the coal in a **fluid** energy mill to .apprxeq.3 .mu. av. **particle** size, **sepg**. macerals in an aq. CsCl d. gradient, and analyzing the products for maceral compn. as a function of d. Excellent **sepns**. can be achieved in a single run if the coal is first demineralized and then well dispersed with a wetting agent. Sink-**float sepns**. also benefit substantially from the addn. of a surfactant. The d. gradient **centrifugation** technique is limited more by inability to liberate macerals from each other on comminution than by any inherent errors in the gradient technique itself. Resoln. of pure macerals using the DGC technique is much better than would be obtained from sink-**float** techniques. Data for 3 coals of differing constitution are presented.
CC 51-16 (Fossil Fuels, Derivatives, and Related Products)

L29 ANSWER 16 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1981:117363 HCAPLUS
DOCUMENT NUMBER: 94:117363
TITLE: **Apparatus** for separation of supernatants
PATENT ASSIGNEE(S): Hitachi Koki Co., Ltd., Japan

SOURCE: Jpn. Tokkyo Koho, 3 pp.
CODEN: JAXXAD
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
JP 55050287	B4	19801217	JP 1976-69123	19760611

AB An **app**. for the **sepn**. of the supernatant from the ppt. of a **blood** sample in a test tube after **centrifugation** includes a **floating** nozzle with multiple suction holes for the suction of the supernatant, a motor, a **device** for the adjustment of a tubing connected to the nozzle, and a switch valve connected to a suction syringe, and a receiver (test tube).
IC G01N001-10; G01N033-48
CC 9-1 (Biochemical Methods)
ST **app blood** supernatant **sepn**
IT **Blood**
(supernatant of, **sepn**. of, **app**. for)

L29 ANSWER 17 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1980:150681 HCAPLUS
DOCUMENT NUMBER: 92:150681
TITLE: Method and **apparatus** for the selective separation of uranium from metals accompanying it
INVENTOR(S): Heckmann, Klaus; Spurny, Jiri
PATENT ASSIGNEE(S): Fed. Rep. Ger.
SOURCE: Eur. Pat. Appl., 28 pp.
CODEN: EPXXDW
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
EP 4953	A2	19791031	EP 1979-101136	19790412
EP 4953	A3	19791128		
EP 4953	B1	19820303		
R: BE, DE, FR, GB, IT, NL, SE				
DE 2817029	B1	19791206	DE 1978-2817029	19780419
DE 2817029	C2	19800828		
DE 2902516	B1	19800724	DE 1979-2902516	19790123
DE 2902516	C2	19810702		
BR 7902365	A	19791023	BR 1979-2365	19790418
AU 7946148	A1	19791025	AU 1979-46148	19790418
AU 524091	B2	19820902		
CA 1124084	A1	19820525	CA 1979-325728	19790418
ZA 7901846	A	19801231	ZA 1979-1846	19790419
US 4486392	A	19841204	US 1981-296440	19810826
PRIORITY APPLN. INFO.:			DE 1978-2817029	19780419
			DE 1979-2902516	19790123

AB The title **sepn**. is useful in recovering U by treating an aq. U soln. with a collector, foaming by blowing in an inert gas, removing the froth and isolating the U from the froth. In the process, to a U-contg. soln., one adds HCl and/or alkali or alk. earth chlorides in such an amt. that the U forms complex anions of the type (UO2Cln)n-2, where n = 3 or 4. Or one adds H2SO4 and/or Na2SO4 in such an amt. that the U forms complex

anions of the type UO2(SO4)z2-2z, where z = 2 or 3. Together with the acid or after addn. of the acid, to the U soln. is added a cationic surfactant, then the soln. is **floated** in at least 1 flotation **cell** and is **sepd**. in a well-known manner into froth and residual soln. The U-contg. froth is freed from water and the residue is dissolved in a little water at a temp. above the Krafft point. From this soln. the U is pptd. as uranate by increasing the pH. The surfactant remaining in the soln. is recycled. An example is given of the froth flotation **sepn**. of U from aq.solns. of dioxochlorouranates. To a soln. of U as the anionic complex (UO2Cl4)2-, is added a surfactant soln. made by dissolving 0.09 g of cetylpyridinium chloride monohydrate [6004-24-6] in 50 mL of 3.0N HCl. After several minutes, the soln. of U and surfactant becomes turbid. After 20 min the turbidity is const. The soln. is then fed to a flotation **cell**. N is used to generate a froth at room temp. at flow rate of 200 mL/min. After a flotation time of 25 min, the surfactant is almost completely foamed. Uranylate surfactant assocs. are **sepd**. from the froth, **centrifuged** and analyzed. The residual soln. is evapd. and the residue is likewise analyzed. After destruction of the surfactant by calcining, the U content of both samples is detd. spectrophotometrically with Arsenazo 300 in 0.1N HCl. The enrichment factor is 41.177 and the vol. redn. factor is 44.545.

IC C22B060-02; B03D001-02
CC 54-1 (Extractive Metallurgy)
Section cross-reference(s): 71

L29 ANSWER 18 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1972:125080 HCAPLUS
DOCUMENT NUMBER: 76:125080
TITLE: Isolation and properties of phagocytic vesicles. II. Alveolar macrophages
AUTHOR(S): Stossel, Thomas P.; Mason, Robert J.; Pollard, Thomas D.; Vaughan, Martha
CORPORATE SOURCE: Natl. Heart Lung Inst., Natl. Inst. Health, Bethesda, Md., USA
SOURCE: J. Clin. Invest. (1972), 51(3), 604-14
CODEN: JCINAO
DOCUMENT TYPE: Journal
LANGUAGE: English

AB Phagocytic vesicles were obtained by d. gradient **centrifugation** of homogenized rabbit alveolar macrophages that had ingested emulsified paraffin oil contg. Oil Red O. The phagocyte vesicles **floated** and thereby were **sepd**. from the sol. fraction and from other **cell** components which sedimented. The purity of the isolated vesicles was documented by electron microscopy and chem. and enzyme anal. The vesicles contained 87% of the **cell**-assocd. Oil Red O, and were essentially free of DNA, RNA, succinic dehydrogenase, and glucose-6-phosphatase. Acid phosphatase, .beta.-glucuronidase, and catalase were transferred from the sedimenting fraction to the phagocytic vesicle fraction during phagocytosis, whereas enzyme activities of the sol. fraction remained unchanged. Half of the catalase of resting macrophages was in the pellet fraction and, compared with acid phosphatase, greater amts. of digitonin were required to release full activity. Such differential latency has been described for enzymes of peroxisomes vs. those of lysosomes. Compared with polymorphonuclear leukocyte vesicles studied previously, phagocytic vesicles of macrophages had more electron-dense material and lower Oil Red O:protein, phospholipid:protein, and enzyme:protein ratios. It is thus probable that secondary lysosomes become part of the macrophage vesicle. When paraffin oil **particles**, the stimulus for phagocytic vesicle formation, were washed away from the macrophages, acquisition of hydrolases by

preformed vesicles ceased, i.e. transfer of these enzymes into phagocytic vesicles occurred only during or shortly after the formation of new vesicles. As noted previously by others, the content of acid hydrolases of stimulated alveolar macrophages was doubled in comparison to normal **cells**. The difference between stimulated and normal macrophages was even more marked when isolated phagocytic vesicles were analyzed. Vesicles from stimulated macrophages had 3-5 times more enzyme activity (per mg of vesicle protein or per amt. of paraffin oil ingested) than did vesicles from normal **cells**.

CC 15 (Immunochemistry)

L29 ANSWER 19 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1972:48067 HCAPLUS
DOCUMENT NUMBER: 76:48067
TITLE: Hollow **microspheres** of pitch and carbon
INVENTOR(S): Amagi, Yasuo; Shiiki, Zenya; Ohsumi, Yukihiko; Noguchi, Kazuo
PATENT ASSIGNEE(S): Kureha Chemical Industry Co., Ltd.
SOURCE: Ger. Offen., 16 pp.
CODEN: GWXXBX
DOCUMENT TYPE: Patent
LANGUAGE: German
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
DE 2126262	B2	19760526	DE 1971-2126262	19710527
DE 2126262	C3	19770113		
JP 49030253	B4	19740812	JP 1970-45625	19700529
GB 1318324	A	19730531	GB 1971-17330	19710526
US 3786134	A	19740115	US 1971-147712	19710527
BE 767866	A1	19711129	BE 1971-104049	19710528
NL 7107376	A	19711201	NL 1971-7376	19710528
FR 2093853	A5	19720128	FR 1971-19437	19710528

PRIORITY APPLN. INFO.: JP 1970-45625 19700529

AB Hollow **microspheres** of pitch and C with a high aromatic content, softening point 60-350.degree., contg. up to 25% PhNO2-insol. material, and H:C ratio 0.2-1.0 are mixed with a low-boiling org. solvent, such as C6H6 or PhMe, to bring the viscosity to <104 P and dispersed in 1-3 parts H2O in the presence of a protective colloid, quickly heated, and removed with the foam at above the b.p. of the solvent and near the softening point of the pitch. The **microspheres** are treated with an oxidizing gas or acid to make them nonfusible and then carbonized in an inert gas for 10-200 min. at 600-2000.degree.. For example, tar from 0.005-sec. pyrolytic decompn. of Ceria crude oil was distd. to remove the fraction b. <430.degree.. The pitch was then treated for 5 hr at 320.degree. and distd. at 5 mm to remove the fraction b. <500.degree., giving a pitch of softening point 190.degree., 6% PhNO2-insol. and H:C ratio 0.56:1. Twenty kg of this pitch was mixed in an autoclave with 4.5 kg C6H6, air removed by N, and heated to 100.degree.; agitated at 300 rpm, 150.degree., and 5.5 kg/cm2; 50 kg 1% aq. partially sapond. poly(vinyl acetate) added; agitated 20 min at 120.degree.; and then cooled to room temp. during 30 min. The product was dehydrated in a **centrifugal separator**. The **microspheres** were air dried for 10 hr at room temp., yielding 75% product particle size 74-147 .mu., softening point 150.degree. and contg. 7.5% C6H6 and 3.2% H2O. Excess solvent was removed in a rotating drier filled with steam tubes and N was passed at 1 m3/hr through the drier while rotating 1 hr at 4 rpm. The **microspheres** contained 5% C6H6 and had a softening point of

170.degree.. Hollow **microspheres** were then produced by continuously feeding 20 kg/hr through a column 300 mm in diam. and 5 m long, and blowing with 150.degree. air at 2 m/sec to give bulk d. 0.13; 98% of the **microspheres floated** in soapy water.
IC B01J
CC 51 (Petroleum, Petroleum Derivatives, and Related Products)
ST pitch hollow **microspheres**; carbon hollow **microspheres**; **microspheres** hollow carbon pitch; tar hollow **microspheres**
IT **Spheres**
(micro-, manuf. of hollow, from petroleum tar)
IT Tar
RL: USES (Uses)
(petroleum, hollow **microspheres** from)
IT Petroleum refining residues
(tar, hollow **microspheres** from)
IT Acetic acid ethenyl ester, homopolymer, hydrolyzed
RL: USES (Uses)
(in hollow **microsphere** production, from petroleum tar)
IT 7440-44-0, uses and miscellaneous
RL: USES (Uses)
(hollow **microspheres** contg., from petroleum tar)
IT 71-43-2, uses and miscellaneous
RL: USES (Uses)
(in hollow **microsphere** production, from petroleum tar)

L29 ANSWER 20 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1969:55567 HCAPLUS
DOCUMENT NUMBER: 70:55567
TITLE: Biochemical and morphological characterization of microvilli isolated from intestinal mucosal cells
AUTHOR(S): Takesue, Yoshiki; Sato, Ryo
CORPORATE SOURCE: Osaka Univ., Osaka, Japan
SOURCE: J. Biochem. (Tokyo) (1968), 64(6), 885-93
CODEN: JOBIAO
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The microvillous fraction was isolated in a hypotonic EDTA medium from rabbit small-intestinal mucosal **cells**. It was almost free of the other subcellular membrane systems but was heavily contaminated by DNA. The DNA was **sepd**. from the microvillous membrane by sonication followed by d. gradient **centrifugation**. Sonically disrupted microvillous fragments which were equilibrated in 1.5M sucrose showed high sucrase (EC 3.2.1.26) activity but were low in hemoprotein content. The reverse was the case for the material recovered in the 1.3M sucrose layer. DNA was sedimented as a pellet in the d. gradients employed. Isolated microvilli stained neg. with phosphotungstate showed profiles of rod-and capsule-like structures, both of which were studded with small **particles** of 50 A. in diam. The membrane fragments recovered in the 1.5M sucrose layer also showed similar morphological features but the membranes **floating** in 1.3M sucrose did not.
CC 11 (Mammalian Biochemistry)

L29 ANSWER 21 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1969:40403 HCAPLUS
DOCUMENT NUMBER: 70:40403
TITLE: Dispersing clay
INVENTOR(S): Hunter, Joseph L.
PATENT ASSIGNEE(S): Engelhard Minerals and Chemicals Corp.
SOURCE: U.S., 3 pp.
CODEN: USXXAM

DOCUMENT TYPE: Patent
LANGUAGE: English
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 3410399	A	19681112	US 1966-601559	19661214

AB Aged discolored gray kaolin clay crude is treated in a flotation beneficiation step where an aq. pulp of the clay is dispersed with Na silicate and froth **floated** in an alk. circuit with anionic reagents selective to the flotation of colored impurities in the clay. A froth contg. a conc. of colored impurities is removed and flotation tailings contg. clay of increased purity is recovered. This improvement is accomplished by dispersing the pulp of aged gray kaolin with a combination of basic hydroxide, (I), Na2CO3, (II), and Na silicate, (III), the I and II each being **sep**. incorporated in the pulp with stirring after the addn. of each of the agents and before the addn. of III so that the pulp has a pH in the range of 7 to 9, before III is added. For example, 30% "gray" clay crude was blunged in H2O without a dispersant. The pulps were dispersed. With fresh crude, the pulps had a pH of 5.5 and were dispersed by the addn. of 4 lb II/ton dry clay and 4 lb. III ("O" brand, 38% solids)/ton clay. The dispersed clay slip was screened to eliminate oversize and then fractionated by **centrifugal** sedimentation to obtain a fine size cut which contained .gtoreq.92% by wt., -2 .mu. **particles**. Brightness of this material was 79%. This dispersed slip was conditioned for flotation by adding 30% by wt., CaCO3 based on the clay (mean **particle** size 5 .mu.), 6 lb. (NH4)2SO4/ton clay, a 5% aq. emulsion contg. 4 lb. NH4OH, 6.2 lb. distd. refined tall oil contg. 70% fatty acids and 25% rosin acids and 6.2 lb./ton of a soln. of neutral petroleum sulfonate in an equal wt. of mineral oil and 8 lb./ton lubricating oil (Eureaka M). The 20% solids pulp was conditioned for 17 min. in a flotation **cell**. The pH of the conditioned pulp was 8.9. The pulp was froth **floated**, removing a froth product for 10 min. The froth was CaCO3 flotation reagent assocd. with yellow titaniferous impurities, originally present in the gray clay. The pulp remaining in the machine was discharged and the froth repulped and **floated** for 10 min. This procedure was repeated twice. The tailings were combined and contained flotation beneficiated clay. The slip of combined machine discharge products was flocced by addn. of H2SO4 to pH of 2.5. The flocced slip was thickened to 20% solids and KMnO4 was added as a 1% aq. soln. in an amt. of 5 to 10 lb. KMnO4/ton of clay. The slip was stirred mildly at ambient temp. for 48 hrs. which resulted in the formation of a deep brown system. SO2 was bubbled into the slip which decolorized the reduced brown Mn compd. Zn hydrosulfite bleaching agent was added to the flocced clay and the bleached clay was filtered, washed, and dried. In a pilot plant operation a portion of the "Mattre Ivey" crude that could not be **floated** satisfactorily after aging for 1 month was employed after it had been stored in the stockpile for 4 months. The clay crude of a pH of 3.4 was blunged in NaOH soln. (3 lb./ton of clay). The pH was 8-8.5. Na2CO3 was added (dry powder) in the amt. of 4 lb./ton resulting in a pH of 9.3. Na silicate ("O" brand) was added (2.0 lb./ton) with a final pH of 9.4. The pulp was stirred and the blunge covered and aged overnight. After aging, 1/2 lb./ton III was added. The dispersed pulp was screened, fractionated, and **floated** in the pilot plant. The combined machine discharge products were blended with permanganate and hydrosulfite. The combined machine discharge had an excellent brightness of 86.6% representing a 7.6% increase in brightness as a result of the flotation step. After bleaching the machine discharge had an excellent

bleached brightness of 91.1%. Prior methods could not wet process the gray crude even after only 1 month aging.
NCL 209005000
CC 57 (Ceramics)

L29 ANSWER 22 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1968:456986 HCAPLUS
DOCUMENT NUMBER: 69:56986
TITLE: Occurrence of light **particles** carrying DNA-like RNA in the microsomal fraction of adult rat brain
AUTHOR(S): Samec, Jaroslav; Jacob, Monique; Mandel, Paul
CORPORATE SOURCE: Centre Neurochim., C.N.R.S., Strasbourg, Fr.
SOURCE: Biochim. Biophys. Acta (1968), 161(2), 377-85
CODEN: BBACAQ
DOCUMENT TYPE: Journal
LANGUAGE: English
AB The existence of 3 types of entity in the 20-60-S sedimenting part of a deoxycholate-treated microsomal fraction of rat brain was shown. The 18-S ribosomal RNA-contg. **particles** were similar in sedimentation properties and density to those described previously in **cells** with a high mitotic index. DNA-like RNA-contg. **particles** have not been described before in the cytoplasm of adult animal **cells** . The **particles** are highly labeled in brain, and part of them can be **sepd.** from the 18-S ribosomal RNA **particles** by their sedimentation behavior. Their buoyant density and sedimentation properties suggest that they may be related to the polysomal-like complex described by Samarina, Lukanidin, and Georgiev in the liver nuclei. Their presence in the cytoplasm supports the hypothesis that such **particles** are involved in the transport of messenger RNA from the nucleus to the cytoplasm. Membranous structures resulted from the deoxycholate treatment without any RNA; these could be **sepd.** from other **particles** by flotation. After **centrifugation** , membranes **floated** on a 1.3M sucrose layer whereas RNA-contg. **particles** were found on 1.7M sucrose. 24 references.
CC 2 (General Biochemistry)
IT Microsomes
(-like **particles**, messenger ribonucleic acid complexes, in brain cytoplasm)
IT Brain, composition
(messenger ribonucleic acid-contg. **particles** in cytoplasm of)
IT Nucleic acids, ribo-, messenger
RL: BIOL (Biological study)
(microsome-like **particles** contg., in brain cytoplasm)

L29 ANSWER 23 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1966:58922 HCAPLUS
DOCUMENT NUMBER: 64:58922
ORIGINAL REFERENCE NO.: 64:10979b-d
TITLE: Beneficiation of coals from the Urgal deposit
AUTHOR(S): Kaminskii, V. S.; Sokolova, M. S.
SOURCE: Fiz.-Tekhn. Probl. Rasrabotki Polezn. Iskop., Akad Nauk SSSR, Sibirsk. Otd. (1965), (5), 152-9
DOCUMENT TYPE: Journal
LANGUAGE: Russian
AB Comparative data on the beneficiation of Ural coals were obtained by using the **centrifugal** method and by application of the sand cone. Coals from 9 deposits (El'ga, El'ga Verkhnyaya, Yankan Verkhnii, Yankan Nizhnii, Sivak Nizhnii, Chalanyk Nizhnii, Chalanyk Verkhnii, Nimakan and El'gakan) and also mixts. of coals from these deposits were tested. The

tests were run on coals of 2 different **particle** classes. In one series of tests, the coal was **sepd.** into classes +13.5-13 and 0-0.5 mm. The class +13 mm. was **sepd.** in a heavy liquid of d. 1.8. The top fraction was comminuted to 13 mm. and deslimed. The entire class 0.5-13 mm. was then beneficiated in the sand cone in a magnetite suspension of d. 1.4. The 0-0.5-mm. fines were **floated** in a lab **cell**. The second **particle** class was obtained by comminution of coal to a **particle** size of 3 mm. and **centrifugal** beneficiation in **centrifuges** GSh-3 and GOSh-3, using a **fluid** of d. 1.4. The complex beneficiation of Ural coals, having an ash content of 32-3%, by **centrifugal sepn.** yielded 44% of a concentrate with an ash content of 8%. Beneficiation of the same coals by the application of sand cones and flotation yielded 37% with 11% ash or 23% with 9.3% ash. By carrying out the **centrifugal** beneficiation to the same degree as in sand cones, the yield was increased to 48%.

CC 26 (Coal and Coal Derivatives)

L29 ANSWER 24 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1947:26294 HCAPLUS
DOCUMENT NUMBER: 41:26294
ORIGINAL REFERENCE NO.: 41:5255e-i,5256a-i,5257a-b
TITLE: Thermophilic fermentation of wood
AUTHOR(S): Virtanen, Artturi I.; Hukki, J.
CORPORATE SOURCE: Biochem. Inst., Helsinki
SOURCE: Suomen Kemistelehti (1946), 19B, 4-13
DOCUMENT TYPE: Journal
LANGUAGE: English

AB cf. preceding and following abstrs. Studies on the fermentation of the carbohydrates in wood were continued with the aim of detg. the effect of various factors on the fermentation, the probable changes which occur in the lignin, and the cause for the high yield of AcOH. Thermophilic bacteria were isolated from garden soil and enriched by at least 5 successive inoculations before use. The fermentations were run at 57-60.degree. in a nutrient soln. of NH_4Cl 2 g., K_2HPO_4 2 g., and $MgSO_4.7H_2O$ 0.5 g. in 1 l. tap water. Various alterations in the compn. of this soln. did not improve fermentation. Omission of the $MgSO_4$ resulted in failure of fermentation of filter paper after several fermentations. The formation of H_2S in the reaction was considered to have a probable inhibitory effect on the fermentation. Parallel control tests on 100 ml. of fermentation soln. contg. 2 g. of filter paper to which increasing amts. of Na_2S up to 540 mg. were added resulted in no retardation of fermentation; this indicates that the thermophilic cellulose bacteria are highly resistant to H_2S. $CaCO_3$ is the best neutral agent, the fermentation being retarded considerably by $NaHCO_3$ and even more so by $MgCO_3$. Fermentation is slow in phosphate buffers, slower in 1/4 M than in 1/12 M buffer. In tests on filter paper, cellulose was fermented to 18.7% in 6 days under mech. agitation, to 100% with gentle manual agitation twice each day, and to approx. 70% when the flasks were not shaken at all. The cellulase enzyme is not excreted into the soln., and decompn. of cellulose apparently takes place on the surface of the bacterial **cell**, where the cellulase mols. presumably are found. Direct contact of the bacteria with the cellulose is necessary before fermentation occurs, and microscopic examn. shows the cellulose fibers to be surrounded by bacteria. Vigorous agitation presumably disturbs the fixation of the bacteria to the cellulose and retards fermentation. The somewhat lower fermentation when no stirring at all was used was ascribed to the **floating** of the cellulose to the surface as a result of the gases formed during fermentation. The wood-dust samples were prepd. by rubbing wood with emery paper. A screening test showed about 42% of

the material passed through a 110 mesh/cm. screen (Din. No. 110). Finer dusts were prepd. by grinding the wood dust with NaCl in a ball mill for 24 hrs., removing the NaCl with water, and **sepg**. the **particles** by **centrifugation** into fine, medium, and coarse **particles**. These 3 fractions all contained 57.0-57.5% cellulose (including all carbohydrates, such as certain pentosans hydrolyzable to hexoses), while the unsieved material, the sieved material before fractionation, and the unsieved material after grinding in a ball mill contained 52.2-52.8% cellulose. All samples had 26.6-26.7% pentosans and 20.4-20.8% lignin. Fermentations were run in cotton-stoppered Erlenmeyer flasks with occasional replacement of evapd. water in tests where the extent of fermentation only was desired. In tests on the products of fermentation, the flasks were connected through a reflux condenser to a gas buret where the gases evolved were collected over satd. NaCl. Only CO2 and H were detd., generally, since other gases appeared in negligible amts. In occasional expts. an excessive gas formation, indicative of CH4, occurred; in such cases CH4 was also detd. Cellulose and lignin were detd. by the method of V. and Koistinen (C.A. 40, 2980.9) and pentosans by the method of Kullgren and Tyd.acte.en (C.A. 24, 1316), in which the furfural is titrated with KBrO3. This method gives values 5-7% higher than the phloroglucinol method of Tollens, but since the initial and final detns. were made in the same way, the results are not affected appreciably. The fermentations generally reached a max. in 3-4 wks., but individual runs varied considerably. Fermentation times in days of 35, 35, 60, 34, 50, 40, 74, and 30 gave 67.7, 46.6, 55.0, 52.7, 72.5, 54.3, 67.2, and 44.0% cellulose fermented, resp., for birch dust. There resulted 69.2, 73.5, 75.8, and 62.0% fermentation in 31, 30, 31, and 18 days, resp., for aspen dust. The fermentation of xylose, filter paper, aspen dust, and birch dust gave the following results, resp.: fermentation time, 4, 12, 18, and 27 days; cellulose fermented, 0, 86.1, 62.0, and 40.5%; pentosans fermented, 100, 0, 61.5, and 36.7%; CO2, 204.6, 180.9, 58.7, and 15.5 ml./g. substrate fermented; H, 189, 147, 12.3, and 5.4 ml./g. substrate fermented; CO2:H2 ratio, 1.1:1, 1.2:1, 4.8:1, and 2.9:1; EtOH, 5.2, 16.3, 10.1, and 3.8%; lactic acid, 7.3, 2.1, 1.2, and 0.7%; AcOH, 15.7, 19.0, 35.1, and 56.7%; PrCO2H, 16.3, 16.2, 6.7, and 5.8%; and HCO2H, 1.2, 0, 1.4, and 0.8%, the last 5 products being given in the percentage of fermented carbohydrates. The CO2 values were cor. for the CO2 liberated from the CaCO3 by the acids formed. The vols. of CO2 and H formed in wood fermentation are much smaller than expected. It is suggested that they are used for the formation of AcOH by the reaction 4H2 + 2CO2 = ACOH + 2H2O; this also accounts for the high yield of AcOH in the fermentation. The C balance for aspen and birch dust in the expts. given in detail above were, resp., 902 and 582 mg. of C in the original carbohydrates, 632 and 415 mg. of C in the fermented products, or a loss of 30 and 29% of C. In xylose fermentation, the C loss was 9.8% based on the final fermentation soln. and 23% based on the identified products, so the real loss of C is probably 10-15%. The MeO content of the lignin of the original birch dust and that of the lignin from 5 fermentations carried out to 28.9, 43.5, 48.5, 55.0, and 67.7% cellulose fermented was 28.7, 27.4, 26.3, 24.4, 22.2, and 22.4%, resp. Thus there is a decrease in the MeO content of lignin as well as a decrease in the lignin itself during fermentation. Since part of this MeO might be present combined with carbohydrate, the original air-dry birch dust was analyzed and found to have 18.6% lignin and 5.4% MeO, or 19.3% MeO in the lignin isolated. Analysis of one of the fermentation residues showed 11.4% of the lignin fermented, and 18.1% MeO present in the lignin isolated. There was a decrease of 29.2% of the MeO of the original birch dust and a decrease of 6.2% of the MeO of the lignin isolated, so approx. 40% of the MeO lost was lost from lignin during fermentation and 60% was lost from carbohydrate. Et2O extns. for 6 hrs. of the original birch dust and the fermentation

residue gave only 0.01% material extd. in each case. The original material gave 0.89% ext. with EtOH in 24 hrs., and the fermentation residue gave 7.3% in 24 hrs. and an addnl. 1.7% after 16 more hrs., or a total of 9.0% ext. The 2 latter exts. were combined and evapd. to yield a brown, sticky substance, sol. in Et2O, from which thin needle crystals were deposited in amts. too small for detailed study. The results obtained can be explained either by assuming that lignin and cellulose are chemically bound but that extensive grinding breaks the cellulose mols. into fragments which can be fermented to the lignin-cellulose bond, or that a major portion of the cellulose is free in wood, while a minor portion is bound to lignin.

CC 16 (The Fermentation Industries)

L29 ANSWER 25 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1944:36497 HCAPLUS
DOCUMENT NUMBER: 38:36497
ORIGINAL REFERENCE NO.: 38:5437b-d
TITLE: A microdecanter for centrifuge washing
AUTHOR(S): Wilde, Walter S.
SOURCE: J. Lab. Clin. Med. (1944), 29, 881-2
DOCUMENT TYPE: Journal
LANGUAGE: Unavailable

AB A microdecanter for **sepg**. wash **fluid** from a metallic ppt. in a **centrifuge** tube is described and illustrated. The discharge tube of the siphon is connected with a flask by a two-hole stopper with an outlet tube so the siphon can be filled by gentle mouth suction. It also has a capillary tip and is divided above the flask and connected with a section of rubber tubing; this permits it to be adjusted so that the **fluid** columns in the arms of the siphon are balanced and the flow will stop just before the tip of the siphon is pulled out of the liquid being drawn off; in this way loss of **floating particles** is avoided.

CC 1 (Apparatus, Plant Equipment, and Unit Operations)

L29 ANSWER 26 OF 26 HCAPLUS COPYRIGHT 2002 ACS
ACCESSION NUMBER: 1943:20148 HCAPLUS
DOCUMENT NUMBER: 37:20148
ORIGINAL REFERENCE NO.: 37:3251a-c
TITLE: Processing coal in a **fluid**-sludge state to **separate** coal from waste
INVENTOR(S): Howe, Andrew F.
PATENT ASSIGNEE(S): B H & M Co.
DOCUMENT TYPE: Patent
LANGUAGE: Unavailable
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
US 2305966		19421222	US	

AB An **app**. is used including a **centrifugal** machine supported for rotation about a vertical axis, means for rotating the mechanism to **sep**. the **fluid** and **floatable** solid impurities from the coal and discharging the coal substantially free from **fluid** and impurities, means forming a conduit for conveying the fluent sludge to the machine, a valve for regulating intermittent passage of the fluent sludge through the conduit toward the machine, an agitator for agitating the fluent sludge at the influent side of the valve, and mechanism for operating the agitator continuously and also for operating the valve intermittently to cause intermittent passage of fluent

sludge through the conduit during operation of the agitator.

CC 21 (Fuels and Carbonization Products)

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=> fil wpids
FILE 'WPIDS' ENTERED AT 11:54:46 ON 17 JUN 2002
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FILE LAST UPDATED: 13 JUN 2002              <20020613/UP>
MOST RECENT DERWENT UPDATE            200237   <200237/DW>
DERWENT WORLD PATENTS INDEX SUBSCRIBER FILE, COVERS 1963 TO DATE

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    enabled in WPINDEX/WPIDS and WPIX  >>>

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    GUIDES, PLEASE VISIT:
    http://www.derwent.com/userguides/dwpi_guide.html <<<

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     (FILE 'WPIDS' ENTERED AT 11:39:39 ON 17 JUN 2002)
                DEL HIS Y
L1           724 S FLOAT? (S) CENTRIF?
L2         62895 S (CELL# OR BLOOD OR FLUID#) (S) (SEPN# OR SEPARAT?)
L3        428747 S  BEAD# OR MICROBEAD# OR SPHERE# OR MICROSPHERE# OR PARTICLE#
L4         45261 S ANTIBOD?
L5            73 S L1 AND L2
L6            18 S L5 AND (L4 OR L3)
L7             2 S L5 AND L4 AND L3
L8         79665 S CENTRIFUG?
L9       3089841 S APP## OR DEVICE# OR SEPARATOR# OR APPARAT?
L10         1888 S L2 AND L8 AND L9
L11          369 S L10 AND L3
L12           11 S L11 AND L4
L13          933 S L3 (4A) L4
L14           59 S L13 AND L8
L15            0 S L14 AND L1
L16           17 S L14 AND L9
L17           25 S L16 OR L12 OR L7

     FILE 'WPIDS' ENTERED AT 11:54:46 ON 17 JUN 2002

=> d .wp 1-25

L17  ANSWER 1 OF 25  WPIDS (C) 2002 THOMSON DERWENT
AN   2002-066489 [09]   WPIDS
DNC  C2002-019798
TI   Preparing membrane vesicle from biological sample for treating cancer, by
     culturing membrane vesicle-producing cells to release vesicles, enriching
     vesicles and subjecting sample to density cushion centrifugation
     .
DC   B04 D16
```

IN HSU, D; LAMPARSKI, H; LE PECQ, J; RUEGG, C; YAO, J
PA (APCE-N) AP CELLS INC
CYC 95
PI WO 2001082958 A2 20011108 (200209)* EN 103p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ
NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK
DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ
LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD
SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2001065873 A 20011112 (200222)
ADT WO 2001082958 A2 WO 2001-EP4173 20010411; AU 2001065873 A AU 2001-65873 20010411
FDT AU 2001065873 A Based on WO 200182958
PRAI US 2001-780748 20010209; US 2000-561205 20000427
AB WO 200182958 A UPAB: 20020208
NOVELTY - Preparing, (M1), membrane vesicle (MV) from a biological sample, comprising culturing a population of MV-producing cells under conditions allowing the release of the vesicles, enriching MVs, and treating the enriched biological sample by **centrifugation** on density cushion, or by treating the biological sample by density cushion **centrifugation**, is new.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) preparing (M2) an immunogenic MV, preferably exosome, involves isolating or purifying the MV from a biological sample and contacting the purified MV with a peptide or a lipid under conditions allowing the peptide or lipid to bind an antigen-presenting molecule at the surface of MV;

(2) a pharmaceutical composition (I) comprising an immunogenic MV obtained by isolating MV from a biological sample containing antigen-presenting cells (APCs) and loading the isolated MV with an immunogenic peptide or lipid;

(3) preparation (M3) of a pharmaceutical product comprising an immunogenic MV, involves isolating MV from a biological sample, loading the isolated MV with an immunogenic peptide or lipid to produce an immunogenic MV, preferably, removing unbound immunogenic peptide or lipid, and contacting the immunogenic MV with a pharmaceutically acceptable diluent or carrier;

(4) producing (M4) dendritic cells, involves culturing dendritic cell precursors in a medium comprising growth factors and/or cytokines to effect or stimulate differentiation of the precursors into dendritic cells, where the medium has a reduced particulate bodies content;

(5) a composition (II) comprising dendritic cells in a culture medium with reduced particulate bodies content, where the culture medium is essentially free of aggregated haptoglobin;

(6) a composition (IV) comprising MVs, a buffering agent and a cryoprotectant or a stabilizing compound;

(7) characterizing (M5) MVs, involves contacting MVs in parallel with two or more antibodies specific for markers of MVs and determining the formation of antigen-antibody immune complexes;

(8) characterizing (M6) the activity of a preparation of MVs, involves contacting super-antigen-loaded MVs with T cells in the presence of accessory cells, and determining the activation of the T cells;

(9) dosing (M7) MVs in a sample, involves loading the sample onto a solid support, contacting the support with an anti-class II antibody and determining the presence of antibody-antigen immune complexes;

(10) a mammalian cell culture medium (V), where the medium is essentially free of haptoglobin aggregates;

(11) a heat inactivated mammalian cell culture medium (VI), where the

medium contains less than about 10 ng/ml of haptoglobin aggregates;

(12) a composition (VII) comprising a biological polypeptide or its derivative, where the composition is essentially deprived of haptoglobin aggregates;

(13) a composition (VIII) comprising a heat inactivated biological polypeptide or its derivative, where the composition is essentially deprived of haptoglobin aggregates;

(14) a composition (IX) of heat inactivated human serum-albumin, where (IX) is essentially free of aggregated haptoglobin;

(15) treating (M8) a biological product, more preferably a heat inactivated biological product, in order to reduce the amount of haptoglobin aggregates contained in it, involves subjecting the product to filtration, more preferably ultrafiltration;

(16) preparing (M9) a biological product involves heat inactivation of the biological product and filtration of the heat inactivated biological product;

(17) treating (M10) a human serum-albumin preparation to reduce particulate bodies contained in it, involves subjecting the preparation to ultrafiltration after heat inactivation;

(18) preparing (M11) a plasma protein preparation involves subjecting the preparation to ultrafiltration after heat inactivation; and

(19) a composition (X) comprising MVs, where the composition is essentially free of haptoglobin aggregates.

ACTIVITY - Antitumor; cytostatic.

MECHANISM OF ACTION - Vaccine. Inducer of immune response (claimed). No supporting data is given.

USE - M2 is useful for producing an immune response in a subject, by obtaining a biological sample containing dendritic cells, isolating or purifying MV from the biological sample, contacting the purified MV with a peptide or a lipid under conditions allowing the peptide or lipid to bind an MHC or CD1 molecule at the surface of MV, and administering MV, to the subject to produce an immune response in the subject, where prior to or after the contacting step, MVs are subjected to mild acid treatment. The biological sample containing dendritic cells is obtained from the subject to be treated (claimed). MV prepared by M1, is useful in experiments, diagnostics or therapeutics, including immunotherapy treatment or prophylaxis of tumors, and for treating various disease conditions such as cancer, infections, and immune diseases. M5, M6 or M7 is useful in pharmaceutical production to determine the activity, phenotype and/or quantity of MV.

ADVANTAGE - M1 produces high yield of MV with a high purity, in relatively short period of time. M1 allows the production and characterization of clinically acceptable lots of MVs, with reproducibility, limited operator variation, and increased product quality. Direct peptide loading by M2 is more efficient than prior indirect loading, as the higher occupancy rate of surface HLA receptors can be obtained using lower amounts of peptide, thus increasing the immunogenic potential of MVs. MVs stand low pH conditions without losing the activity and functionality.

DESCRIPTION OF DRAWING(S) - The figure shows the particular process for autologous dexosome isolation and purification.

Dwg.1/32

L17 ANSWER 2 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2002-011379 [01] WPIDS
DNN N2002-009417 DNC C2002-002952
TI Whole **blood separator**, for **separating** selected **cell** population from **blood** or **blood** component, comprises container, **particles** bound with reactant that binds to selected **cell** population, and **separator**.

DC J01 P34
IN COOK, D N; MONROY, R L; OGIER, W C; SCHMITTLING, R J; COOK, D M
PA (ELIG-N) ELIGIX INC
CYC 95
PI WO 2001083002 A2 20011108 (200201)* EN 53p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TR TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CO CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2001059449 A 20011112 (200222)
US 2002058030 A1 20020516 (200237)
ADT WO 2001083002 A2 WO 2001-US14354 20010503; AU 2001059449 A AU 2001-59449 20010503; US 2002058030 A1 Provisional US 2000-201515P 20000503, US 2001-848545 20010503
FDT AU 2001059449 A Based on WO 200183002
PRAI US 2000-201515P 20000503; US 2001-848545 20010503
AB WO 200183002 A UPAB: 20020105
NOVELTY - A whole **blood separator** comprises a container for receiving **blood** or **blood** component; **particles** bound with a reactant that specifically binds to a selected **cell** population; and a **separator** for **separating** the selected **cell** population from the **blood** or **blood** component. The density of the **particle** is at least twice the density of the **cells**.

DETAILED DESCRIPTION - A whole **blood separator** comprises (a) a container for receiving **blood** or **blood** component; (b) **particles** (16) bound with a reactant that specifically binds to a selected **cell** population; and (c) a **separator** for **separating** the selected **cell** population from the **blood** or **blood** component. The **particles** have a density enough to provide differential gravity settling of the population from the remaining sample. The **particle** density is at least two times the density of the **cells**.

An INDEPENDENT CLAIM is also included for a method of **separating** leukocytes from whole **blood** comprising (i) providing a sterile container; (ii) moving **blood** into the sterile container through a sterile connection; (iii) dispersing **particles** bound with a reactant which specifically binds to leukocytes; (iv) settling the leukocytes bound with the **particles**; and (v) **separating** the remaining **blood** from the leukocyte bound **particles** to another sterile container.

USE - For **separating** selected **cell** population from **blood** or **blood** component.

ADVANTAGE - The inventive **apparatus** selectively removes white blood cells while obtaining high yields of red blood cells, platelets and plasma. It avoids the problem of filter clogging. The **apparatus** can also remove antigenic white blood cell fragments as well as intact white blood cells.

DESCRIPTION OF DRAWING(S) - The figure shows a schematic diagram of components of the **apparatus**.

Particles 16
Container 32
Dwg.2/11

L17 ANSWER 3 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2001-281830 [29] WPIDS
CR 2001-282097 [29]
DNN N2001-200922 DNC C2001-085763

TI New complex comprising a cyclic antibiotic and a lanthanide or transition metal, useful e.g. for detecting gram negative bacteria in food, medical or biological samples or in diagnosis and treatment of diseases e.g. cancer in patients.
DC B04 C06 D13 D16 K08 P31 S03
IN FEIRTAG, J M; OLSTEIN, A D
PA (KALL-N) KALLESTAD LAB INC
CYC 93
PI WO 2001026673 A1 20010419 (200129)* EN 35p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG UZ VN YU ZA ZW
AU 2001010835 A 20010423 (200147)
ADT WO 2001026673 A1 WO 2000-US28358 20001013; AU 2001010835 A AU 2001-10835 20001013
FDT AU 2001010835 A Based on WO 200126673
PRAI US 1999-159142P 19991013
AB WO 200126673 A UPAB: 20010822
NOVELTY - A complex (I) comprising a cyclic antibiotic and at least one of a lanthanide or a transition metal is new.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for:
(1) (I) comprising polymyxin (especially polymyxin B or colistin) and a metal;
(2) detecting gram negative bacteria in a sample suspected of containing gram negative bacteria, comprises contacting the sample with (I) such that the complex binds to the gram negative bacteria to yield a bound complex, separating the bound complex from any nonbound complex, where the presence of a bound complex is indicative of the presence of gram negative bacteria;
(3) detecting disease in a patient suspected of having the disease, comprising introducing a detectable complex comprising a cyclic antibiotic, a metal and a delivery molecule into the patient, where the delivery molecule targets the complex to a disease cell, if present, and detecting the presence or absence of the complex at a site within the patient, where the presence of the complex at the site is indicative of the presence of a disease in the patient site;
(4) detecting the presence of gram negative bacteria in a patient suspected of comprising gram negative bacteria, comprising introducing a detectable complex containing a cyclic antibiotic and a metal into the patient, and detecting the presence of the complex at the site is indicative of the presence of gram negative bacteria in the patient;
(5) introducing a detectable complex into a patient, comprising a cyclic antibiotic, a metal and a delivery molecule targeting the complex to a disease cell, to detect disease by detecting the complex at a site, indicative of a disease cell, or treat infection, disease or autoimmune dysfunction; and
(6) detecting gram negative bacteria in a food sample, comprising incubating the sample with immunomagnetic **beads** coated with **antibody** to the gram negative bacterium such that gram negative bacteria bind to the immunomagnetic **beads**, magnetically removing the immunomagnetic **beads** from the sample and contacting the immunomagnetic **beads** with the detectable complex to yield a detectable bound complex, and assaying the immunomagnetic **beads** for the presence or absence of detectable bound complex, where the presence of a detectable bound complex is indicative of the presence of gram negative bacteria in the food sample.
ACTIVITY - antibacterial; antiautoimmune; cytostatic.

MECHANISM OF ACTION - No details provided.
USE - The complex is useful for detecting gram negative bacteria in samples, especially in food samples, medical samples (e.g. medical **fluid**) or biological samples (e.g. body tissue), e.g. in food processing or medical sterilization. It is useful to detect gram negative bacteria in patients, by introducing a detectable complex (especially comprising polymyxin B) and detecting the complex at a site within the patient; the complex may also be used therapeutically to kill or disable the gram negative bacteria detected at the site. It may be combined with a delivery molecule e.g. a monoclonal **antibody** to target the complex to a disease **cell** (e.g. a bacterial **cell**, cancer **cell** or **cell** involved in autoimmune dysfunction) in a patient, useful diagnostically and therapeutically to detect and treat infection, disease or autoimmune dysfunction (all claimed). Polymyxin B pentasulfate (80 mg, 0.05 mmol) was dissolved in 5 ml 0.05 M acetate buffer, pH 5.5, incubated at room temperature with cobalt chloride (12 mg, 0.055 mmol) and purified by column chromatography by known methods. UV-absorbing fractions (polymyxin B-Cobalt (II) complex) were collected and freeze dried. A titration curve for E. coli O157:H7 was then produced. Bacteria were diluted in sterile saline to 10 CFU (colony forming unit)/ml, incubated (20 minutes room temperature) with 20 micro g/ml polymyxin B-Cobalt (II) complex, **centrifuged** and resuspended in 0.1 ml saline. Chemiluminescence was measured using 0.2 ml proprietary reagent in a luminometer. A ground beef sample was then tested for E. coli O157:H7 using a known immunomagnetic capture technique for **separation** of bacteria from ground beef samples (Pyle et al., **Appl**. Environ. Microbiol., 65:1966-1972 (1999)), and treatment of collected **beads** bearing E. coli O157:H7 **cells** (resuspended in 1.0 ml saline) with 20 micro g/ml polymyxin B-Cobalt (II) complex. **Cells** were collected in a **particle** concentrator, re-suspended in 0.1 ml saline and assayed for chemiluminescence, no results are included.
Dwg.0/8

L17 ANSWER 4 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2001-244830 [25] WPIDS
DNN N2001-174301 DNC C2001-073501
TI Recovering target species from biological sample, useful especially for forensic isolation of sperm, by capturing it as covalent adduct with separation reagent.
DC B04 D16 S03
IN CHAPMAN, W H; KLEVAN, L
PA (MIRA-N) MIRAIBIO INC
CYC 94
PI WO 2001020042 A2 20010322 (200125)* EN 15p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW MZ NL OA PT SD SE SL SZ TZ UG ZW
W: AE AG AL AM AT AU AZ BA BB BG BR BY BZ CA CH CN CR CU CZ DE DK DM DZ EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX MZ NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW
AU 2000073829 A 20010417 (200140)
ADT WO 2001020042 A2 WO 2000-US25423 20000915; AU 2000073829 A AU 2000-73829 20000915
FDT AU 2000073829 A Based on WO 200120042
PRAI US 1999-154148P 19990915
AB WO 200120042 A UPAB: 20010508
NOVELTY - Processing a biological sample (A) by treating it with a separation reagent (SR) to capture the target species (I), forming a covalent adduct (II) of SR and (I), then separating (II) from the sample,

is new. SR comprises a **microparticle** and a receptor for a ligand on (I).

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the following:

(1) SR comprising a **microparticle**, receptor coupled to the **particle** and a photoaffinity label coupled to the receptor; and

(2) automated system for processing (A) by the novel method, comprising:

(a) means for providing SR of (1);

(b) means for reacting the sample with the SR to capture the target species;

(c) means for creating an adduct of the target species and the SR; and

(d) means for separating the adduct from the sample; and

(3) an **apparatus** for processing a biological sample, comprising:

(a) a chamber for receiving the sample;

(b) a capture means proximate to the chamber for capturing the SR;

(c) a second chamber in fluid communication with the first; and

(d) a second capture means proximate to the second chamber for capturing the SR.

USE - For isolating sperm cells from forensic samples for subsequent analysis of their DNA (claimed).

ADVANTAGE - Capturing (I) with a receptor provides a high degree of selectivity, and permanent attachment as a covalent adduct makes possible complete **separation** of (I) from other components of the sample, e.g. epithelial **cells** of a victim. **Microparticles** have a large surface area for permanent attachment of a receptor, allowing efficient capture of most, or all, of (I), and magnetic **separation** eliminates the need for **centrifugation**, allowing complete automation of the process and highly reproducible results.

Dwg.0/4

L17 ANSWER 5 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2001-071103 [08] WPIDS
DNN N2001-053794 DNC C2001-019908
TI Prenatal diagnostic method uses maternal whole blood samples and enriching the population of nucleated fetal erythrocytes.
DC B04 D16 S03
IN BETHELL, D R; KO, W; SAMMONS, D W
PA (BIOS-N) BIOSEPARATIONS INC
CYC 20
PI WO 2000075647 A1 20001214 (200108)* EN 49p
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: JP US
ADT WO 2000075647 A1 WO 2000-US15565 20000605
PRAI US 1999-137692P 19990604
AB WO 200075647 A UPAB: 20010207

NOVELTY - A prenatal diagnostic method, comprising obtaining a maternal whole blood sample containing nucleated fetal erythrocytes, enriching the nucleated fetal erythrocytes, and labeling at least a portion of the nucleated fetal erythrocytes, with a detectable label, is new.

DETAILED DESCRIPTION - A prenatal diagnostic method, comprising obtaining a maternal whole blood sample containing nucleated fetal erythrocytes, enriching the nucleated fetal erythrocytes, and labeling at least a portion of the nucleated fetal erythrocytes, with a detectable label, is new. The method further comprises:

(a) detecting labeled nucleated fetal erythrocytes by creating digitized images of fields containing labeled nucleated fetal erythrocytes;

(b) processing the digitized images to create coordinates positionally identifying labeled nucleated fetal erythrocytes in the digitized images of fields; and

(c) storing the digitized images and coordinates onto a web-based internet server for remote access and manipulation of the stored digitized images.

USE - For prenatal diagnostics (claimed), such as invasive prenatal genetic diagnosis.

ADVANTAGE - The method is fast and provides good recovery and purity of cells.

Dwg.0/10

L17 ANSWER 6 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2000-612546 [59] WPIDS
DNC C2000-183458
TI Isolating erythrocytes, useful e.g. for pretreatment of samples before polymerase chain reaction, by treatment with agent that promotes aggregation.
DC A89 B04 D16
IN BRUNNER, H; GERAY, J; TOVAR, G; VITZTHUM, F; WALITZA, E
PA (FRAU) FRAUNHOFER GES FOERDERUNG ANGEWANDTEN
CYC 23
PI DE 19912120 A1 20000928 (200059)* 8p
WO 2000057181 A1 20000928 (200059) DE
RW: AT BE CH CY DE DK ES FI FR GB GR IE IT LU MC NL PT SE
W: CA HU IL JP US
ADT DE 19912120 A1 DE 1999-19912120 19990318; WO 2000057181 A1 WO 2000-EP2352 20000316
PRAI DE 1999-19912120 19990318
AB DE 19912120 A UPAB: 20001117
NOVELTY - Isolation of erythrocytes (E) comprising treating a sample with at least one substance (I) that promotes aggregation of (E), and separating the aggregates, is new.

DETAILED DESCRIPTION - An INDEPENDENT CLAIM is also included for a **device** for isolation of (E) comprising at least one (I) bound to a carrier.

USE - The method is used to eliminate (E) from samples before polymerase chain reaction (where (E) act as inhibitors of chain extension), and to recover (E) for subsequent analysis.

ADVANTAGE - The method is simpler and less expensive than conventional methods that require **centrifugation** or specific **antibodies**. No non-specific binding of leukocytes, viruses and bacteria to (I) occurs, so these do not become incorporated into the aggregates. (E) are reversibly bound to (I) and do not undergo hemolysis.

Dwg.0/5

L17 ANSWER 7 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2000-387878 [33] WPIDS
CR 2001-159080 [12]
DNN N2000-290322 DNC C2000-117871
TI **Device** for **separating** the **fluid** in a biological sample e.g. plasma from **blood**, etc has capillary channels formed by communicating spaces between abutting **microspheres** or **particles**.
DC B04 C07 D16 S03
IN LEA, P
PA (BIOP-N) BIOPHYS INC; (UMED-N) UMEDIK INC
CYC 91
PI WO 2000029847 A2 20000525 (200033)* EN 71p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL

OA PT SD SE SL SZ TZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CR CU CZ DE DK DM EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT TZ UA UG US UZ VN YU ZA ZW

CA 2254223 A1 20000516 (200041) EN
CA 2289416 A1 20000516 (200041) EN
AU 2000011440 A 20000605 (200042)
BR 9915406 A 20010724 (200147)
EP 1131632 A2 20010912 (200155) EN
R: AL AT BE CH CY DE DK ES FI FR GB GR IE IT LI LT LU LV MC MK NL PT RO SE SI

ADT WO 2000029847 A2 WO 1999-CA1079 19991112; CA 2254223 A1 CA 1998-2254223 19981116; CA 2289416 A1 CA 1999-2289416 19991112; AU 2000011440 A AU 2000-11440 19991112; BR 9915406 A BR 1999-15406 19991112, WO 1999-CA1079 19991112; EP 1131632 A2 EP 1999-972308 19991112, WO 1999-CA1079 19991112

FDT AU 2000011440 A Based on WO 200029847; BR 9915406 A Based on WO 200029847; EP 1131632 A2 Based on WO 200029847

PRAI US 1999-335732 19990618; CA 1998-2254223 19981116

AB WO 200029847 A UPAB: 20010927

NOVELTY - A **device** (I) has capillary channels formed by communicating spaces between abutting **microspheres** or **particles**. Capillary flow through the channels are used to **separate** a **fluid** from a biological sample.

DETAILED DESCRIPTION - INDEPENDENT CLAIMS are included for the following:

(1) **separating fluid** from a biological sample using (I);

(2) an assay **device** having reagent in chamber(s) defined by spaced apart opposed surfaces such that they draw fluid into the chamber(s) by capillary action;

(3) detecting an analyte in a biological sample by drawing off fluid from the sample using capillary action and analyzing the fluid using nitrocellulose chromatography strip.

USE - The **device** is used in the **separation** and chromatographic analysis of biological samples, e.g. plasma and **blood**, etc.

ADVANTAGE - The **device** separates out the plasma for analysis without the need for equipment such as **centrifuges** and therefore enables a test to be performed outside of a laboratory, hence providing the required result more quickly.

DESCRIPTION OF DRAWING(S) - The drawing shows an assay **device**
carrier plates 10,12
application zone 16
sample 18
label zone 22
detection areas 26, 28, 30
openings 36, 38, 40
Dwg.1/19

L17 ANSWER 8 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2000-260967 [23] WPIDS
DNN N2000-194476 DNC C2000-080154
TI Measuring composite produced by **antibody**-antigen reaction in blood without recovering blood - comprises mixing dispersion containing insoluble **particles** sensitized by **antibody** or antigen, blood and surfactant solution and irradiating with light.
DC B04 J04 S03
PA (NIKO-N) NIPPON KODEN CORP
CYC 1

PI JP 2000065830 A 20000303 (200023)* 8p
ADT JP 2000065830 A JP 1998-235723 19980821
PRAI JP 1998-235723 19980821
AB JP2000065830 A UPAB: 20000522
NOVELTY - Measuring composite produced by **antibody**-antigen reaction in **blood** without **separation** of **blood** by **centrifugation**, comprises mixing a dispersion containing insoluble **particles** sensitized by **antibody** or antigen, **blood** and surfactant solution with each other and then irradiating with light, followed by measuring amount of **antibody** or antigen on the basis of the transmitted light. DETAILED DESCRIPTION - **Apparatus** comprising each means for measurement is also claimed.
USE - Useful for measuring e.g. in blood.
Dwg.0/5

L17 ANSWER 9 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 2000-038352 [03] WPIDS
DNN N2000-028947 DNC C2000-009742
TI Separating microorganisms, especially infectious agents, useful for distinguishing infection or identifying known microorganisms e.g. clinical trials of new antibiotics and antivirals.
DC A89 B04 D16 J04 S03
IN ANDERSON, N G; ANDERSON, N L
PA (BIOS-N) BIOSOURCE PROTEOMICS INC; (LARG-N) LARGE SCALE PROTEOMICS CORP
CYC 85
PI WO 9946047 A2 19990916 (200003)* EN 47p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZW
AU 9930030 A 19990927 (200006)
EP 1062044 A2 20001227 (200102) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
US 6254834 B1 20010703 (200140)
KR 2001034600 A 20010425 (200164)
US 6340570 B1 20020122 (200208)
JP 2002505866 W 20020226 (200219) 60p
US 6346421 B1 20020212 (200219)
ADT WO 9946047 A2 WO 1999-US5511 19990309; AU 9930030 A AU 1999-30030 19990309; EP 1062044 A2 EP 1999-911379 19990309, WO 1999-US5511 19990309; US 6254834 B1 Provisional US 1998-77472P 19980310, US 1999-265541 19990309; KR 2001034600 A KR 2000-710102 20000909; US 6340570 B1 Provisional US 1998-77472P 19980310, Div ex US 1999-265541 19990309, US 2000-571274 20000516; JP 2002505866 W WO 1999-US5511 19990309, JP 2000-535454 19990309; US 6346421 B1 Provisional US 1998-77472P 19980310, Div ex US 1999-265541 19990309, US 2000-571278 20000516
FDT AU 9930030 A Based on WO 9946047; EP 1062044 A2 Based on WO 9946047; US 6340570 B1 Div ex US 6254834; JP 2002505866 W Based on WO 9946047; US 6346421 B1 Div ex US 6254834
PRAI US 1998-77472P 19980310; US 1999-265541 19990309; US 2000-571274 20000516; US 2000-571278 20000516
AB WO 9946047 A UPAB: 20000118
NOVELTY - Concentrating microorganisms from a biological sample is new and comprises centrifuging a sample of microorganisms in an ultracentrifuge tube comprising an upper, middle and lower region where the upper region has a larger diameter than the middle region which is larger than the lower region.
DETAILED DESCRIPTION - INDEPENDENT CLAIMS are also included for the

Considered 8/19/02

following:

(1) a method for measuring the amount of DNA or RNA in microorganisms, comprising concentrating the microorganisms and analyzing the amount of DNA or RNA by flow fluorescence analysis or epifluorescence analysis;

(2) an ultracentrifuge tube comprising an upper, middle and lower region where an inner diameter of the upper region is larger than an inner diameter of the middle region which is larger than an inner diameter of the lower region;

(3) a method for distinguishing between single stranded DNA viruses, double stranded DNA viruses and RNA viruses present in a biological sample containing viruses comprising contacting dyes which can distinguish between the viruses with viruses in the sample, concentrating the viruses and detecting the bound dyes in a band virus where the type of the nucleic acid present in the virus is determined;

(4) a method for determining an infectious agent titer in a biological sample, comprising measuring the intensity of emitted fluorescent light;

(5) a method for determining titer in a biological sample comprising:

(a) concentrating the microorganisms;

(b) removing fluid from above the lower banding region;

(c) overlaying remaining fluid with water or buffer less dense than fluid in the lower region;

(d) inserting a capillary tube with an open bottom end into the centrifuge tube such that the open bottom end is above one or more microorganism bands;

(e) drawing fluid through the open bottom end of the capillary tube such that the fluid being drawn through the capillary tube forms a stream of fluid which passes through a flow cell where it is analyzed;

(f) adding water or buffer to the upper region of the centrifuge tube as fluid is withdrawn in (e) or as needed to maintain water or buffer above any viral band;

(g) moving the centrifuge tube relative to the capillary tube so that the capillary tube moves into the lower region of the centrifuge tube and through any viral band of microorganisms;

(h) analyzing for microorganisms in the stream of fluid flowing through the flow cell to determine a number of microorganisms present; and

(i) calculating a titer from the determined number of microorganisms and known volume of the biological sample;

(6) a method for determining the mass of a microorganism genome of a microorganism in a biological sample where the method comprises:

(a) concentrating the microorganism;

(b) staining the microorganism genome;

(c) purifying the microorganism genome; and

(d) subjecting the microorganism genome to fluorescence flow cytometry;

(7) a method of **separating** layers in a centrifuge tube prior to centrifugation where **fluid** in the centrifuge comprises a first dense layer and a second less dense layer comprising:

(a) inserting the first dense layer into the tube;

(b) providing a means for separating the first and second layers; and

(c) inserting the second less dense layer into the tube;

(8) a system for measuring fluorescence from a sample in a centrifuge tube comprising a centrifuge tube holder to hold a centrifuge tube in a vertical position, a laser which produces a laser beam, a filter for isolating light of one wavelength and a filter through which passes light emitted by excited dye bound to the sample which has been banded in a centrifuge tube when the centrifuge tube is placed into the centrifuge tube holder, and a detector which detects light passing through the filter of part (c);

(9) a system for measuring fluorescence from a sample in a centrifuge tube comprising a holder for the centrifuge tube, a light source to produce light which will pass through the sample and a detector to detect light which is emitted from the sample upon having light passed through it;

(10) a system for counting **particles** which are concentrated in a small volume comprising a container in which the **particles** ate concentrate, a capillary tube, a first pump and a second pump, means for moving the container relative to the capillary tube, a flow cell, a light source and a detector; and

(11) a method for determining the size of the genome of a microorganism in a biological sample and for determining a restriction enzyme map.

USE - The physical system is useful for identifying infectious disease agents and for discovering new infectious agents. In addition the system is useful for developing new antibiotics and antiviral agents (claimed).

ADVANTAGE - The system rapidly identifies infectious disease agents without growing them and allows the rapid distinction between viral and bacterial infections, identification of specific agents with the aim of providing specific therapy and the rapid discovery of new infectious agents.

Dwg.0/9

L17 ANSWER 10 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1999-601349 [51] WPIDS
DNN N1999-443325 DNC C1999-175040
TI A semi-automated fertility system for assessing fertility in a couple.
DC A96 B04 D16 J04 S03
IN SHAI, S
PA (BIOS-N) BIOSHAF
CYC 87
PI WO 9950645 A1 19991007 (199951)* EN 65p
RW: AT BE CH CY DE DK EA ES FI FR GB GH GM GR IE IT KE LS LU MC MW NL OA PT SD SE SL SZ UG ZW
W: AE AL AM AT AU AZ BA BB BG BR BY CA CH CN CU CZ DE DK EE ES FI GB GD GE GH GM HR HU ID IL IN IS JP KE KG KP KR KZ LC LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK SL TJ TM TR TT UA UG US UZ VN YU ZA ZW
AU 9928513 A 19991018 (200010)
EP 1068509 A1 20010117 (200105) EN
R: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
JP 2002510045 W 20020402 (200225) 71p
ADT WO 9950645 A1 WO 1999-IL147 19990316; AU 9928513 A AU 1999-28513 19990316; EP 1068509 A1 EP 1999-909169 19990316, WO 1999-IL147 19990316; JP 2002510045 W WO 1999-IL147 19990316, JP 2000-541505 19990316
FDT AU 9928513 A Based on WO 9950645; EP 1068509 A1 Based on WO 9950645; JP 2002510045 W Based on WO 9950645
PRAI US 1999-232677 19990119; IL 1998-123891 19980330
AB WO 9950645 A UPAB: 20011203
NOVELTY - A semi-automated fertility system for assessing the fertility of a couple, comprises investigation of cervical mucus, semen and serum samples, by reaction with at least one reagent to form a reaction product and analysis of the reaction product in a flow cytometer.

DETAILED DESCRIPTION - The system comprises the following:

(a) reacting a cervical smear including cervical mucus and at least one serum sample from the female partner;

(b) at least one semen sample and at least one serum sample from the male partner;

(c) a fertility kit for determining at least one fertility affecting

factor, including at least one reagent, such that the reagent is able to react with one of the samples to form a reaction product; and

(d) a flow cytometer to analyze the reaction product to determine the fertility factor.

INDEPENDENT CLAIMS are also included for the following:

(1) a semi-automated system for assessing diagnostic factors, comprising: (a) at least one cell and body fluid sample; (b) and (c) as above;

(2) a method for detecting sperm-binding **antibodies** in cervical mucus of the female partner comprising:

(a) washing semen sample of the male partner in a solution of low pH to remove specific and non specific **antibodies**;

(b) incubating the semen sample of the male partner in a solution to block non specific binding sites in the semen sample;

(c) incubating treated semen sample of the male partner with cervical mucus of the female partner;

(d) incubating mixture of the treated semen sample of the male partner and cervical mucus of the female partner with anti-human **antibodies** bound to fluorescent dye; and

(e) detecting results in flow cytometer;

(3) a method for predicting success of in vitro fertilization (IVF) and intrauterine insemination (IUI) treatment, comprising:

(a) washing and capacitation of sperm sample;

(b) incubating said sperm sample with fluorescently labeled **beads** coated with peptides of the oocyte membrane;

(c) washing the sperm cells; and

(d) detecting sperm cells bound to oocyte membrane peptide to predict success of IVF and IUI treatment;

(4) a method of collecting motile sperm cells from a sample of sperm, comprising:

(a) providing a **device** for measuring sperm motility in a sample, including a sample compartment, at least 1 channel and a barrier separating the sample compartment from the channel;

(b) filling the channels of the **device** with a viscous solution;

(c) putting the sample in the compartment; and

(d) collecting motile sperm cells from the channels of the **device**;

(5) a method of removal of sperm bound **antibodies** from semen comprising:

(a) forming a cell pellet by **centrifugation** of the semen;

(b) adding an acidic solution to the cell pellet to remove anti-sperm **antibodies**; and

(c) re-suspending cell pellet in a mixture of washing solution, reagent to increase cell motility and a reagent to prevent free radical production to obtain semen without sperm bound **antibodies**.

USE - The processes are used to improve the success rates of IVF and IUI.

Dwg.0/17

L17 ANSWER 11 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1999-406413 [35] WPIDS
CR 2000-549302 [47]; 2000-566346 [48]
DNN N1999-303076 DNC C1999-120265
TI **Apparatus** to identify and count biological microparticles.
DC B04 J04 S03
IN HENNES, K
PA (HENN-I) HENNES K
CYC 2
PI DE 19906352 A1 19990722 (199935)* 3p

AU 2000041020 A 20000904 (200103)
ADT DE 19906352 A1 DE 1999-19906352 19990217; AU 2000041020 A AU 2000-41020 20000215
FDT AU 2000041020 A Based on WO 200049407
PRAI DE 1999-19906352 19990217; DE 1999-19939208 19990818
AB DE 19906352 A UPAB: 20010116
NOVELTY - **Apparatus** to identify and count suspended biological microparticles, in a liquid sample, uses a sample where the microparticles are bonded to particles immunologically, pathalogically or microbiologically. The current flow from a metal coil gives them inductive changes which can be measured and they can be counted.

DETAILED DESCRIPTION - The bonding particles, which can be changed by induction, are ferromagnetic and are held by an electromagnet (4) in a plastics capillary (3) before the metal coil current flow. The sample is passed through the capillary, where the biological microparticles bond with the ferromagnetic particles, and the liquid of the sample flows out of the capillary. The metal coil (5) is part of an electronic oscillation circuit. An INDEPENDENT CLAIM is included for an operation to give biologically activated ferromagnetic **particles**. Monovalent primary **antibodies** are mixed with ferromagnetic **particles** in a multiple surplus, which have been coated with secondary antibodies. Using a **centrifuge** for partial sedimentation, particles are gathered and separated into **particles** of a monovalent primary **antibody** and ferromagnetic **particles** coated with **antibodies**. Preferred Features: Viruses can be used instead of the primary antibodies, with the secondary antibody directed against their protein shrouding.

USE - For the identification and counting of bacteria, blood cells or cell components in watery solutions.

ADVANTAGE - The system is easier than optical measurement methods and is more accurate than capacitative measurement. It can be used in applications such as the measurement of E-coli. The **apparatus** can be miniaturized.

DESCRIPTION OF DRAWING(S) - The drawing shows a schematic diagram of the **apparatus**.
capillary 3
electromagnet 4
coil 5
Dwg.1/1

L17 ANSWER 12 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1998-112384 [11] WPIDS
DNN N1998-090045 DNC C1998-036982
TI System to determine surface antigens and structures of macro molecules - uses ligands and antibodies with fluorescent marking to register fluorescent intensities.
DC B04 D16 J04 P41 S03
IN KOMANNS, A
PA (KOMA-I) KOMANNS A
CYC 18
PI EP 823633 A1 19980211 (199811)* DE 8p
R: AT BE CH DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE
DE 19631855 A1 19980212 (199812) 6p
DE 19631855 C2 19981015 (199845)
ADT EP 823633 A1 EP 1997-112928 19970728; DE 19631855 A1 DE 1996-19631855 19960807; DE 19631855 C2 DE 1996-19631855 19960807
PRAI DE 1996-19631855 19960807
AB EP 823633 A UPAB: 19980316
To determine surface antigens or structural characteristics of cells or particles or macro molecules, layerings are made in light-permeable

reaction vessels of fluorescent marked or unmarked components in a liquid or layered medium with antibodies or ligands marked with fluorescence.

The sedimentation and/or separation of the components in the medium is by **centrifuge** spinning of the reaction vessel round a rotor.

In the primary layering, the unmarked components form a bond with the antibodies or ligands marked with fluorescence. On the application of light, the local and/or time changes in the fluorescent intensity in the medium are registered either visually, at the end of the **centrifugal** spinning against a light with a spectrum which excites the fluorescence, or by a machine register using a scanner or camera, or the effect is measured by **centrifugal** analysis during the **centrifugal** spinning.

Also claimed is an **apparatus** with an optical system (6-8) which is static or has a radial movement. A light source (6) gives a monochromatic point shaped excitation beam. A fluorescence detector (7) is focused at the excitation point in the reaction vessel (3).

USE - The method is for the study of the affinity of **antibodies** and ligands with cells, **particles** and macro molecules, such as in whole blood, leukocyte concentrates, mononuclear cells, plasma rich in platelets, subcellular particles, and macro molecules such as DNA and RNA.

ADVANTAGE - The technique registers surface antigens or structural characteristics using specific antibodies or ligands marked with fluorescence. The process is technically simple, and gives a high sample throughput.

Dwg.1/2

L17 ANSWER 13 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1997-110821 [11] WPIDS
CR 1992-160977 [20]; 1996-356196 [36]
DNN N1997-091717 DNC C1997-035398
TI **Appts**. and methods for performing agglutination assays - esp. for blood group determn., requires less reagent and is cost effective.
DC B04 D16 S03
IN CHACHOWSKI, R K; HAWK, J B; SETCAVAGE, T
PA (ORTH) ORTHO DIAGNOSTIC SYSTEMS INC
CYC 13
PI EP 755719 A2 19970129 (199711)* EN 12p
R: AT BE CH DE DK ES FR GB IT LI LU NL SE
EP 755719 B1 20010718 (200142) EN
R: AT BE CH DE DK ES FR GB IT LI LU NL SE
DE 69132666 E 20010823 (200156)
ES 2159681 T3 20011016 (200173)
ADT EP 755719 A2 Div ex EP 1996-200554 19911108, EP 1996-202387 19911108; EP 755719 B1 Div ex EP 1991-310343 19911108, Div ex EP 1996-200554 19911108, EP 1996-202387 19911108; DE 69132666 E DE 1991-632666 19911108, EP 1996-202387 19911108; ES 2159681 T3 EP 1996-202387 19911108
FDT EP 755719 B1 Div ex EP 485228, Div ex EP 725276; DE 69132666 E Based on EP 755719; ES 2159681 T3 Based on EP 755719
PRAI US 1990-611195 19901109
AB EP 755719 A UPAB: 20011211
The following are claimed:

(1) a vessel (80) for conducting an agglutination assay comprising a first chamber (95) for receiving and retaining **fluid** sample and reagents and a second chamber communicating with the first chamber for receiving **fluid** from the first chamber (95); and a barrier (105) that **separates** the first chamber (95) and second chamber, the barrier (105) being capable of preventing **fluid** passage from the first chamber (95) to the second chamber under normal gravity and/or atmos. pressure, while allowing **fluid** passage from the first

chamber (95) to second chamber under gravity and/or pressure which is greater than normal;

(2) a method for detecting the binding of ligands, which comprises:

(a) allowing a sample possibly contg. a binding ligand to come into contact with a reagent contg. a corresp. binding partner for the binding ligand;

(b) applying the sample to a **device** comprising a matrix of substantially non-compressible micro **particles**, which permits movement of non-agglutinated reactants but does not permit significant movement of agglutinated reactants, and

(c) detecting the presence or absence of agglutinates on top of or within the matrix;

(3) a method for detecting the presence of **antibodies** or antigens, pref. blood gp. **antibodies** or antigens, which comprises:

(a) adding an **antibody** or antigen detecting reagent and a liq. sample possibly contg. an **antibody** or antigen to a matrix of substantially non-compressible **microparticles**, which permits movement of non-agglutinated reactants but does not permit significant movement of agglutinated reactants, the matrix positioned in a configuration and quantity sufficient to permit observation of non-agglutinated or of agglutinated reactants;

(b) applying a force to the matrix to effect movement therethrough of the detecting reagent and the sample, and

(c) detecting the presence or absence of agglutinated reactants on top of or within the matrix, and

(4) a method for detecting the presence of blood gp. **antibodies** or antigens, which comprises:

(a) adding to an inlet port of a transparent hollow support member, a reagent for detecting **antibodies** or antigens and a liq. sample possibly contg. **antibodies** or antigens, the member having disposed in it a first binding reaction zone and a second agglutinate detection zone in liq. receiving relationship with it, the second zone contg. a matrix of substantially non-compressible **microparticles**, which permits movement of non-agglutinated red blood cells but does not permit significant movement of agglutinated red blood cells;

(b) **centrifuging** the member, and

(c) detecting the presence or absence of agglutinated red blood cells on top of or within the matrix.

ADVANTAGE - The **device** and methods provide an assay system that uses a matrix of non-compressible **microparticles**. The **particles** do not have to be swelled prior to use and prior to calculation of amts. of reagents to be added. The **particles** are less porous than other matrices and do not absorb a great deal of reagent, which renders more of the reagent available for reaction. Also, variation in **particle** size is minimal, as a great deal less breakage occurs. The assay system requires less **centrifugation** to move the reactants through the matrix.

These factors result in an assay that is quite cost effective. Additionally the system provides greater storage and shipping capabilities, e.g. if the **devices** turn upside down during shipping or storage, the matrix may be easily tapped back into place within the support member. Also, the **devices** contg. the matrix may be stored frozen, at 15 deg. C or room temp. without stability problems.

Dwg.3/4

L17 ANSWER 14 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1996-454846 [45] WPIDS
DNN N1996-383410 DNC C1996-142511

TI Disc for automated **centrifugal separation** and microscopic analysis of **fluid** specimens partic. **blood** - has radial wells from central bore and with particulates barrier between viewing area and waste chamber.
DC B04 P41 P81 S03 S05
IN JEWELL, C; JEWELL, C R
PA (JEWE-I) JEWELL C; (JEWE-I) JEWELL C R; (IMMU-N) IMMUTECH INC
CYC 70
PI WO 9629137 A1 19960926 (199645)* EN 29p
RW: AT BE CH DE DK EA ES FI FR GB GR IE IT KE LS LU MC MW NL OA PT SD SE SZ UG
W: AL AM AT AU AZ BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LS LT LU LV MD MG MK MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TM TR TT UA UG UZ VN
AU 9654261 A 19961008 (199704)
US 5631166 A 19970520 (199726) 9p
US 5885528 A 19990323 (199919)
US 6024883 A 20000215 (200016)
ADT WO 9629137 A1 WO 1996-US3785 19960321; AU 9654261 A AU 1996-54261 19960321; US 5631166 A US 1995-407630 19950321; US 5885528 A Div ex US 1995-407630 19950321, US 1996-649288 19960517; US 6024883 A Div ex US 1995-407630 19950321, US 1996-649218 19960517
FDT AU 9654261 A Based on WO 9629137; US 5885528 A Div ex US 5631166; US 6024883 A Div ex US 5631166
PRAI US 1995-407630 19950321; US 1996-649288 19960517; US 1996-649218 19960517
AB WO 9629137 A UPAB: 19961111
A disc to receive **fluid** specimens for **centrifugal separation** and visual analysis is circular with reaction wells (30) extending radially from a central bore (15). Each well has a **fluid** inlet, a barrier (56) to trap particulates on **centrifuging**, and an area (85) for microscopic viewing of the **separated fluid**. The **fluid** inlets (50) are pref in a cover (35) extending over all wells, and the barrier is between the viewing area adjacent to the disc bore and a waste chamber (60) adjacent to the disc periphery. The barrier is pref. of C-shaped cross-section, curving upwardly and inwardly and is coated to minimise particulates adherence. Also claimed is **blood** analysis **appts**. incl. the disc moved by a conveyor through spin, incubation, spin and analysis stations. The **appts**. may also include saline and/or anti-human globulin inj. stations, disc sanitizing and storage stations, and a system for displaying and printing an image and locating and measuring objects in the specimens. The method of **blood** analysis is also claimed.
USE - The disc can be used for blood grouping, Rh typing, **antibody** screening and identification, or donor/recipient compatibility cross-matching.
ADVANTAGE - It performs all stages in an automated system with enhanced operator safety.
Dwg.1/5

L17 ANSWER 15 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1996-011080 [01] WPIDS
CR 1998-261046 [23]; 1998-261047 [23]
DNN N1996-009495 DNC C1996-003571
TI Method for detection of blood group antigens and antibodies - gives an improved, flexible, rapid and accurate blood grouping system.
DC B04 D16 S03
IN FRAME, T H; HATCHER, D E; MOULDS, J J
PA (GAMM-N) GAMMA BIOLOGICALS INC

CYC 64
PI WO 9531731 A1 19951123 (199601)* EN 39p
RW: AT BE CH DE DK ES FR GB GR IE IT KE LU MC MW NL OA PT SD SE SZ UG
W: AM AT AU BB BG BR BY CA CH CN CZ DE DK EE ES FI GB GE HU IS JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT RO RU SD SE SG SI SK TJ TT UA UG UZ VN
AU 9526373 A 19951205 (199620)
EP 760953 A1 19970312 (199715) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI LU MC NL PT SE
US 5665558 A 19970909 (199742) 7p
ADT WO 9531731 A1 WO 1995-US5982 19950515; AU 9526373 A AU 1995-26373 19950515; EP 760953 A1 EP 1995-921248 19950515, WO 1995-US5982 19950515; US 5665558 A US 1994-243296 19940517
FDT AU 9526373 A Based on WO 9531731; EP 760953 A1 Based on WO 9531731
PRAI US 1994-243296 19940517
AB WO 9531731 A UPAB: 19990714
Detecting a blood gp. antigen (Ag) on erythrocytes (ER) comprises (i) obtaining a sample of ER to be tested; (ii) adding the sample to a reaction tube which has a lengthwise axis contg. a reaction medium, consisting of several particles which have immunoglobulin-binding ligands selected from protein A, protein G, protein A/G or a universal kappa light chain binding protein coupled to the surface of the **particles** and **antibody** (Ab) (opt. a bridging Ab) specific for Ag, coupled to the ligand on the particles; (iii) **centrifuging** the reaction tube for a time, which is sufficient to move ER ,which have not attached to the Ab, in the form of a pellet to the bottom of the well; (iv) detecting attachment of ER to the particles or lack of them; and (v) correlating attachment with the presence of Ag. Also claimed are: (1) similar methods for detecting a blood cell Ag in blood typing and for detecting blood serum Ab specific for blood cell Ag; (2) a method for detecting blood serum Ab specific for blood cell Ag, comprising (i) obtaining a sample of ER having known Ag on their surface; (ii) obtaining a sample of blood serum to be tested for Ab against the Ag; (iii) incubating for 10 min at 37 deg. C the ER and the serum in a reaction tube, the tube having lengthwise axis and contg. several particles having protein G coupled to the surface of the particles; (iv) **centrifuging** the reaction tube for 15 sec at 900-1000 g, then for about 30 sec at 500g, and then for 45 sec at 900-1000g using a **centrifuge**, adapted so that a **centrifugal** force generated by the **centrifuge** acts along the axis of the reaction tube; (v) detecting attachment of ER to the protein G on the particles or a lack of attachment; and (vi) correlating attachment with the presence of the Ab tested for, and (3) an **appts**. useful for detecting Ag and Ab comprising: (i) several reaction tubes being spaced apart and coupled together to form a single unit array of the reaction tubes, the array being adapted for use in a **centrifuge**; (ii) each of the reaction tubes having (a) an upper longitudinal region having a rectangular cross-section of first preselected dia., forming a reaction well adapted to receive reagents and ER; (b) a lower longitudinal region having a circular cross-section of a second preselected dia. less than the first preselected dia. forming a tube portion contg. a column of immuno-reactive particles having a ligand selected from protein A, protein G, protein A/G or a universal kappa light chain binding protein coupled to the surface of the particles; and (ii) an intermediate longitudinal region having a dia. varying between the first and second preselected dias., the intermediate longitudinal region providing fluid communication between the upper and lower longitudinal regions.

USE - The methods are used to determine the presence or absence of certain Ab, both for diagnosis and for the treatment of certain disorders.

ADVANTAGE - The method provides an improved, flexible, rapid and

accurate blood grouping system. The result of such a test has fewer false negative responses.
Dwg.0/2

L17 ANSWER 16 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1994-146185 [18] WPIDS
CR 1997-309826 [28]; 1998-332129 [29]; 1998-398028 [34]; 1999-008704 [01]
DNN N1994-115193 DNC C1994-066812
TI One-step immunoassay for biological samples e.g. blood analysis for detection of HIV antibodies or antigens - using densimetric aggregation marker particles coupled to labelled antigens or antibodies.
DC B04 S03
IN LEVINE, R A; MERCOLINO, T; RECKTENWALD, D J; TERSTAPPEN, L W M; WARDLAW, S C; TERSTAPPEN, L W M M; MERCOLINO, T J
PA (BECT) BECTON DICKINSON CO; (LEVI-I) LEVINE R A; (WARD-I) WARDLAW S C; (LEVI-I) LEVIN R; (WARD-I) WARDROW S; (BECT) BECTON DICKINSON & CO
CYC 23
PI EP 595641 A2 19940504 (199418)* EN 7p
R: AT BE CH DE DK ES FR GB GR IE IT LI NL SE
NO 9303919 A 19940502 (199424)
AU 9348709 A 19940512 (199425)
FI 9304804 A 19940501 (199428)
CA 2109461 A 19940501 (199429)
US 5342790 A 19940830 (199434) 5p
JP 06281651 A 19941007 (199445) 6p
CN 1088310 A 19940622 (199531)
EP 595641 A3 19950426 (199545)
US 5460979 A 19951024 (199548) 5p
AU 668212 B 19960426 (199624)
TW 297094 A 19970201 (199720)
JP 2679945 B2 19971119 (199751) 6p
MX 186070 B 19970923 (199850)
EP 595641 B1 20001206 (200064) EN
R: AT BE CH DE DK ES FR GB GR IE IT LI NL SE
DE 69329726 E 20010111 (200110)
ES 2152243 T3 20010201 (200112)
ADT EP 595641 A2 EP 1993-308642 19931029; NO 9303919 A NO 1993-3919 19931029; AU 9348709 A AU 1993-48709 19930930; FI 9304804 A FI 1993-4804 19931029; CA 2109461 A CA 1993-2109461 19931028; US 5342790 A US 1992-969379 19921030; JP 06281651 A JP 1993-272591 19931029; CN 1088310 A CN 1993-119654 19931029; EP 595641 A3 EP 1993-308642 19931029; US 5460979 A Div ex US 1992-969379 19921030, US 1994-192629 19940207; AU 668212 B AU 1993-48709 19930930; TW 297094 A TW 1993-109320 19931108; JP 2679945 B2 JP 1993-272591 19931029; MX 186070 B MX 1993-6681 19931027; EP 595641 B1 EP 1993-308642 19931029; DE 69329726 E DE 1993-629726 19931029, EP 1993-308642 19931029; ES 2152243 T3 EP 1993-308642 19931029
FDT US 5460979 A Div ex US 5342790; AU 668212 B Previous Publ. AU 9348709; JP 2679945 B2 Previous Publ. JP 06281651; DE 69329726 E Based on EP 595641; ES 2152243 T3 Based on EP 595641
PRAI US 1992-969379 19921030; US 1994-192629 19940207
AB EP 595641 A UPAB: 20010302
A quantity of target analyte-specific antibody and/or antigen-coupled density-marker is placed in transparent tube with a bore for receiving the sample. A density gradient layer is formed in the tube into which the density-markers sink during **centrifugation**.

Pref. the density-markers consist of beads having different specific gravities coupled to the antibodies and/or antigens so that multiple assays may be performed in one tube at one time. Pref. the density-marker bands are sufficiently spaced apart that each can be separately identified, e.g. by fluorescent identification.

USE/ADVANTAGE - Used for analysis of blood samples to determine presence or absence of antibodies or antigens indicative of certain diseases, e.g. HIV infection, hepatitis, Lyme disease and prenatal profiles including TORCH profiles. Multiple assays can be conducted simultaneously.
D12
Dwg.3/3

L17 ANSWER 17 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1993-253559 [32] WPIDS
DNN N1993-194759 DNC C1993-113156
TI Determining antigen by using agglutination reaction - includes reacting sample with carrier **particles** on which **antibody** corresp. to analyte antigen is fixed.
DC B04 D16 S03
PA (DENK-N) DENKA SEIKEN KK
CYC 1
PI JP 05172816 A 19930713 (199332)* 3p
ADT JP 05172816 A JP 1991-137135 19910513
PRAI JP 1991-137135 19910513
AB JP 05172816 A UPAB: 19931118
Determining antigen by utilising agglutination reaction comprises reacting a sample with carrier **particles** on which **antibody** corresp. to analyte antigen is fixed, semimenting the reaction prod. by **centrifugal** operation, applying a force to the sediment in a direction different from the sedimentation direction in **centrifuging**, and determining the change of the shape.

Carrier particles are e.g. sheep erythrocyte, polysaccharide, latex particles or gelatin particles. **Centrifugal** sedimentation of the immune reaction prod. is carried out under the condition of e.g. 10 min. at 1200 rpm. The most simple and preferable method of applying an external force of a different direction direction from the **centrifugal** direction to the sediment is to stand it with inclining or suspending it at an angle of 30-90 degrees pref. 75 degrees to the sedimentation direction. The standing time is e.g. 5 min.. When antigen-antibody reaction is caused, the pellet form of the sediment is retained as it is even in the inclined state. When no antigen-antibody reaction is caused, the sediment is flowed by the inclination to change the form. The strength of the agglutination by antigen-antibody reaction is estimated by the easiness of the collapse of the sediment (**centrifuged** immune reaction product). The judgement can be carried by eyes or by an image **device**. When magnetic particles are used as the carrier, a force can be applied to the sediment by applying a magnetic field. The determn. of antigen can be rapidly carried out, in contrast with previous method in which the agglutination image is judged by spontaneous sedimentation.

USE/ADVANTAGE - The determn. time can be greatly reduced and the detection sensitivity be also raised c.f. with previous method. The determn. can be rapidly carried out in some ten min..
Dwg.0/0

L17 ANSWER 18 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1992-127333 [16] WPIDS
DNN N1992-094955 DNC C1992-059311
TI Judging amt. of protein in urine for diagnosis of diabetic nephropathy - by detecting the concn. of pre-albumin in urine using latex sensitised with pre-albumin anti-human antibody and common agglutination.
DC A96 B04 S03
PA (KYOT-N) KYOTO IKAGAKU KENKY
CYC 1
PI JP 04069572 A 19920304 (199216)* 3p

JP 2668448 B2 19971027 (199748) 3p
ADT JP 04069572 A JP 1990-183504 19900710; JP 2668448 B2 JP 1990-183504 19900710
FDT JP 2668448 B2 Previous Publ. JP 04069572
PRAI JP 1990-183504 19900710
AB JP 04069572 A UPAB: 19931006
Method comprises detecting the concn. of pre-albumin in urine by using latex sensitised with anti-human pre-albumin antibody.

Also claimed is a sensitised latex for judging the amt. of pre-albumin in urine for the diagnosis of diabetic nephropathy which comprises binding anti-human pre-albumin **antibody** with latex **particles**.

Pre-albumin and albumin are proteins of similar properties. When albumin is contained in urine, pre-albumin of about 1/200 time the amt. of albumin is also contained. As the amt. of pre-albumin in urine is small, quasi-negativity is not obtd. even in serious case of diabetic nephropathy. The concn. of pre-albumin in urine is detected by a common agglutination method using the sensitised latex. Anti-human pre-albumin antibody-sensitised latex is prepd. by suspending polystyrene latex of less than 1.0 micron in tris-HCl buffered NaCl aq. soln., adding anti-human albumin antibody and adhering it to stand then **centrifuging** to obtain the sensitised latex.

USE/ADVANTAGE - The invention can be used for early diagnosis of diabetic nephropathy. The determin. of pre-albumin can be safely carried out without using special **appts**. and without the influence of excessive antigen to cause quasi-negativity. (0/0)
0/0

L17 ANSWER 19 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1992-056353 [07] WPIDS
CR 1989-317175 [44]; 1991-016075 [03]
DNN N1992-042933 DNC C1992-025420
TI Controlled deposition of analytical reagent at reagent zone - using mesa-shaped node providing discontinuity of reaction channel preventing deposited liquid spreading to adjacent surfaces.
DC J04 S03
IN SIDDONS, G; WOGOMAN, F W
PA (MILE) MILES LAB INC
CYC 1
PI US 5084397 A 19920128 (199207)*
PRAI US 1988-179843 19880411; US 1989-378039 19890711; US 1991-638101 19910104
AB US 5084397 A UPAB: 19931006
Method, and **appts**., for controlled deposition of an analytical reagent at a reagent zone positioned along a reaction channel in which an analytical reaction is performed by causing a liq. reaction mixt. to contact a discrete reagent zone having an analytical reagent disposed there at, the reaction channel being defined about a substrate having a hydrophilic surface, comprises (a) providing the reaction zone in the form of a node extending away from the substrate surface about which the reaction channel is provided, and the node contructed so as to provide a horizontal upper surface constructed to support a vol. of liq. thereupon; and (b) depositing a predetermined amt. of the liq. analytical reagent on the horizontal surface of the node defining the reagent zone, whereby the surface tension of the liq. reagent on the node prevents the liq. from spreading away from the node to adjacent sectins of the substrate surface and thereby permits controlled deposition of the liq. reagent on the reagent zone.

ADVANTAGE - The mesa-shaped node provides a discontinuity or break in the surface of the reaction channel sufficient to prevent a liq. which is

deposited onto the mesa from spreading to adjacent surfaces and, thereby, provides a discrete or localised area to serve as a reagent zone.
1/3

L17 ANSWER 20 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1991-026423 [04] WPIDS
DNN N1991-020247 DNC C1991-011437
TI Diagnostic drug for hemorrhagic fever with renal syndrome - contains insoluble carrier particles sensitised using hanta virus antigen obtd. by inoculating virus into rat brain, etc..
DC B04 S03
IN LEE, H
PA (TOKU) TOKUYAMA SODA KK; (LEEH-I) LEE H; (TOKU) TOKUYAMA KK; (TOMY-I) TOMYAMA T
CYC 2
PI JP 02297064 A 19901207 (199104)*
JP 2664471 B2 19971015 (199746) 5p
KR 160122 B1 19990501 (200051)
ADT JP 02297064 A JP 1989-104544 19890426; JP 2664471 B2 JP 1989-104544 19890426; KR 160122 B1 KR 1990-5838 19900425
FDT JP 2664471 B2 Previous Publ. JP 02297064
PRAI JP 1989-104544 19890426
AB JP 02297064 A UPAB: 19930928
A diagnostic drug for emorrhagic fever with renal syndrome contains sensitised insoluble particles obtd. by sensitisation of insoluble carrier particles using Hanta virus antigen.
USE/ADVANTAGE - Diagnostic drug of this invention has advantages e.g, (a) pretreatment of serum etc., as sample is unnecessary, because no **antibody** against insol. carrier **particles** is existed,
(b) infection of Hanta, virus can be diagnosed simply and rapidly without using special **appts**.
In an example, the Hanta virus antigen was inoculated into a suckling rat brain. The tissue emulsion obtd. from the infected brain tissue was **centrifuged** at low temp. The supernatant was treated with etOH and protamine sulphate, furthermore treated by H.S. **Centrifugation**. The supernatant was deactivated with formalin, next formalin was removed by dialysis. (Prepn. of HDP) 2 layer structure silica/dye complex (av. particle size 1.57 um) was prepared from tetraethylsilicate and methylene blue. This was surface treated with phenyltriethyoxysilane. (Prepn. of sensitised HDP). The obtd. Hanta virus antigen was prepared as 2HDP agglutination unit soln. with PBS 8M/60; pH 7.2). The antigenic soln. (5 ml) was mixed with 0.5% HDP/PBS (5 ml) stirred slowly at room temp. for 60 min. to sensitisation. Then washed with PBS 3 times, suspended to diluting soln. (5 ml) to prepare sensitised HDP. Diluting soln. was PBS added with 1% deactivated rabbit serum. @(6pp Dwg.No.0/0)@

L17 ANSWER 21 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1991-016075 [03] WPIDS
CR 1989-317175 [44]; 1992-056353 [07]
DNN N1991-012428 DNC C1991-006872
TI Determn. of analyte in liq. sample - using reaction cassette which is rotated to contact and mix sample with analytical reagents.
DC B04 J04 S03
IN MESSENGER, L J; NELSON, C D; WOGOMAN, F W; YIP, K
PA (MILE) MILES INC; (FARB) BAYER CORP
CYC 20
PI EP 407827 A 19910116 (199103)*
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
AU 9057794 A 19910117 (199110)
CA 2018323 A 19910111 (199113)

JP 03046566 A 19910227 (199115)
FI 9003467 A 19910112 (199117)
HU 58918 T 19920330 (199217)
DD 300372 A5 19920604 (199244)
US 5162237 A 19921110 (199248) 20p
EP 407827 A3 19920902 (199338)
FI 98862 B 19970515 (199725)
JP 2909560 B2 19990623 (199930) 14p
CA 2018323 C 20010102 (200104) EN

ADT EP 407827 A EP 1990-112397 19900629; JP 03046566 A JP 1990-179709 19900709; DD 300372 A5 DD 1990-342638 19900709; US 5162237 A CIP of US 1988-179843 19880411, Cont of US 1989-378039 19890711, US 1991-774362 19911008; EP 407827 A3 EP 1990-112397 19900629; FI 98862 B FI 1990-3467 19900709; JP 2909560 B2 JP 1990-179709 19900709; CA 2018323 C CA 1990-2018323 19900605

FDT US 5162237 A CIP of US 4990075; FI 98862 B Previous Publ. FI 9003467; JP 2909560 B2 Previous Publ. JP 03046566

PRAI US 1989-378039 19890711

AB EP 407827 A UPAB: 20010118
Predetermined amt. of a liq. test sample (from 41) is introduced into a reaction channel (49) of a test cassette (40) which has a reagent zone incorporated with an analytical reagent (at 30) which interacts with the analyte to produce a detectable response as a function of the analyte. The test sample is transported by gravity along the reaction channel (49), when the cassette is rotated about a horizontal axis, into contact with the analytical reagent, and past a flow disrupting **device** (e.g. a corner 53), which thoroughly mixes the test sample and reagent when the cassette is oscillated about the horizontal axis, the liq. mixt. is subequently examined for a detectable response to the reagent.
USE/ADVANTAGE - Detecting the amt. of an analyte in a test sample, partic. in determn. of the relative amount of glycated hemoglobin in a whole blood test sample. Provides a self contained reaction cassette or vessel in which contact with reagents and mixing are easily performed by non-**centrifugal** rotation of the **device** at low velocities. @(23pp Dwg.No.3/5)@

L17 ANSWER 22 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1990-188526 [25] WPIDS
DNN N1990-146576 DNC C1990-081772
TI Immunoassay of e.g. antigen(s) or **antibodies** - using magnetic **particles** which form distribution pattern on application of magnetic field.
DC B04 S03
PA (OLYU) OLYMPUS OPTICAL CO LTD
CYC 1
PI JP 02122265 A 19900509 (199025)*
ADT JP 02122265 A JP 1988-275629 19881031
PRAI JP 1988-275629 19881031
AB JP 02122265 A UPAB: 19930928
A method for immunoassay comprises placing a reaction liq. contg. a substance to be determined and magnetic particles on which a substance reacting or competing specifically with the substance to be determined is immobilised in a reaction vessel, circulating the reaction liq. by feeding a fluid from a nozzle into the reaction liq., and at the same time applying such a magnetic field that the magnetic particles are focussed along at least part of the wall face of the reaction vessel to form a distribution pattern, and determining the binding state of the two substances from the pattern.
USE/ADVANTAGE - Useful for detecting antigens or antibodies by immunoagglutination reaction. As a distribution pattern of the magnetic

particles can be rapidly and distinctly formed on the wall face of the reaction vessel, the time required for the judgement of the agglutination reaction can be shortened and high sensitivity detection can be carried out from the distribution pattern. Judgement of agglutination can be carried out without using **centrifugal** sepn., and detection time can be shortened and the detecting sensitivity be raised.
0/0

L17 ANSWER 23 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1987-352788 [50] WPIDS
DNN N1987-264316 DNC C1987-151104
TI Reagent for erythrocyte haemolytic reaction - uses human erythrocyte sensitisation.
DC B04 S03
PA (GREC) GREEN CROSS CORP
CYC 1
PI JP 62257060 A 19871109 (198750)* 6p
ADT JP 62257060 A JP 1986-99483 19860501
PRAI JP 1986-99483 19860501
AB JP 62257060 A UPAB: 19930922
Non-specific hemolysis can be prevented by using the same kind of erythrocyte as a sample blood serum as the erythrocyte for sensitisation, esp. by using human erythrocyte in the case of human blood serum as sample.

Human erythrocyte used as the erythrocyte for sensitisation is pref. an O type erythrocyte. Substance to be determined with the reagent is that concerning with complement in antigen-**antibody** reaction, such as alpha-fetoprotein, HBsAg, immunoglobulin G, etc. Complement is e.g. guinea pig complement. Erythrocyte is obtd. by common technique of **blood** fractionation, such as **centrifugal sepn**. of total **blood** by 600-1200 G. The erythrocyte is washed with isotonic sodium chloride aq. soln. and then treated with glutaraldehyde, formalin, etc. for stabilisation. The **particle** size of the erythrocyte is pref. 5-15 micron. The sensitisation of the erythrocyte with antigen or **antibody** is pref. carried out in a buffer liq. of pH 5-9; usually a **floating** liq. of the erythrocyte and a liq. contg. antigen or **antibody** are mixed for the sensitisation.

USE/ADVANTAGE - The reagent is useful for determining accurately and rapidly antigen or **antibody** in sample blood serum. The reagent has high stability and high sensitivity, and does not almost cause non-specific agglutination in sample blood serum. The analytical operation with the reagent is simple (that is, no pretreatment is required).
0/0

L17 ANSWER 24 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1987-265727 [38] WPIDS
DNN N1987-199125 DNC C1987-112545
TI **Device** for detecting specific antigen, esp. AIDS virus - comprises corresp. **antibody** fixed to inert **particle**, pref. polystyrene latex.
DC A96 B04 D16 J04 S03
PA (LURH-I) LURHUMA Z
CYC 14
PI EP 238396 A 19870923 (198738)* FR 17p
R: AT BE CH DE ES FR GB GR IT LI LU NL SE
FR 2595826 A 19870918 (198746)
JP 63033660 A 19880213 (198812)
ADT EP 238396 A EP 1987-400535 19870311; FR 2595826 A FR 1986-3572 19860313; JP 63033660 A JP 1987-58669 19870313
PRAI FR 1986-3572 19860313; FR 1987-18181 19871224

AB EP 238396 A UPAB: 19930922
Product for determining at least one particular antigen (Ag), other than toxins, by immuno-assay reaction consists of at least one immunologically inert particle to which is fixed at least one specific antibody (Ab).

The particles used are polystyrene latex, pref. chemically activated before immobilising Ab.

USE/ADVANTAGE - The products can be used to detect, assay, separate and purify viral, lbacterial, mycobacterial or parasite antigens, esp. to diagnose for AIDS. Purified antigens isolated using the product can be used in vaccines to raise antibodies (useful e.g. in passive immunisation). Immunogenic complexes consisting of the product on to which Ag have been agglutinated can also be used in vaccines (including cases where Ag itself is not immunogenic).

In an example, 0.125ml 10% polystyrene latex was incubated with glutaraldehyde, then **centrifuged**, washed, **centrifuged** again, and the solids resuspended in 1 ml soln. contg. 10-20 mg specific IgG (previously dialysed against pH 7.2 phosphate-buffered saline (P85)), and incubated for 2 days. The mixt. was **centrifuged** at 15000 rpm, the supernatant discarded and the ppte. resuspended in 1 ml. PB5 contg. 0.05 vol.% 'Tween 20' (RTM). For storage, the suspension could be mixed with a small amt. of NaN3.

L17 ANSWER 25 OF 25 WPIDS (C) 2002 THOMSON DERWENT
AN 1987-187411 [27] WPIDS
DNN N1987-139952 DNC C1987-077961
TI GOT isoenzyme fractionating agent sealed in sample vessel - to allow direct EIKE-use in automatic analysis **appts**..
DC B04 D16 J04 S03
PA (EIKE) EIKEN KAGAKU KK
CYC 1
PI JP 62115367 A 19870527 (198727)* 5p
ADT JP 62115367 A JP 1985-253728 19851114
PRAI JP 1985-253728 19851114
AB JP 62115367 A UPAB: 19930922
The reagent is sealed in a sample vessel which can be directly applied to a commercial automatic analyser. The fractionating reagent is GOT isoenzyme fractionating reagent.

GOT isoenzymes are e.g s-GOT (supernatant GOT or soluble GOT) and m-GOT(mitochondria GOT). The reagent pref consists of anti-s-GOT **antibody** and anti-s-GOT **antibody** sensitised carrier (erythrocyte, latex **particles**, etc), which is pref. a freeze-dried one. The amt. of the fractionating reagent placed in the sample vessel is 0.1-1.0 ml, pref 0.3-0.5 ml.

ADVANTAGE - Complex operations such as accurate sampling of supernatant liq after **centrifugal sepn** can be omitted and the sample in the vessel contg the reagent can be directly and conveniently subjected to automatic analysis. The analysis of the supernatant liq can be simply, rapidly and accurately carried out. The amt. of sample **blood** serum can be minimised.
0/0

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=> fil biosis
FILE 'BIOSIS' ENTERED AT 12:03:09 ON 17 JUN 2002
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FROM JANUARY 1969 TO DATE.

RECORDS LAST ADDED: 12 June 2002 (20020612/ED)


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     FILE 'MEDLINE' ENTERED AT 11:55:39 ON 17 JUN 2002
L1            27 S FLOAT? (3A) CENTRIFUG?

     FILE 'BIOSIS' ENTERED AT 11:56:42 ON 17 JUN 2002
L2             4 S CENTRIF? (4A) FLOAT
L3          1301 S ANTIBOD? (L) COAT? (L) (?BEAD? OR ?SPHERE?)
L4         50685 S CENTRIFUG?
L5            60 S L3 AND L4
L6           194 S CENTRIFUG? (L) FLOAT?
L7             0 S L3 AND L6
L8         20645 S (CELL# OR FLUID# OR BLOOD#) (4A) (SEPN OR SEPARAT?)
L9            15 S L5 AND L8
L10       350403 S  APP## OR APPARAT? OR DEVICE#
L11            5 S L5 AND L10
L12            1 S SEPARATOR# AND L5
L13           20 S L9 OR L11 OR L12

     FILE 'BIOSIS' ENTERED AT 12:03:09 ON 17 JUN 2002

=> d bib ab it 1-20

L13  ANSWER 1 OF 20  BIOSIS  COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN   2001:481811  BIOSIS
DN   PREV200100481811
TI   Affinity purification of postsynaptic densities using antibody-
     coated magnetic beads.
AU   Vinade, L. (1); Chang, M. C. (1); Schlief, M. L. (1); Petersen, J. D. (1);
     Tao-Cheng, J. H. (1); Dosemeci, A.
CS   (1) NINDS/NIH, Bethesda, MD USA
SO   Society for Neuroscience Abstracts, (2001) Vol. 27, No. 1, pp. 406. print.
     Meeting Info.: 31st Annual Meeting of the Society for Neuroscience San
     Diego, California, USA November 10-15, 2001
     ISSN: 0190-5295.
DT   Conference
LA   English
SL   English
AB   Analysis of postsynaptic density (PSD) enriched fraction has been a widely
     used strategy for the identification of its component proteins. The
     success of this approach is largely dependent on the purity of the
     fraction employed. Electron microscopic analysis by replica and thin
     section indicates that PSD fractions prepared by conventional methods
     (TritonX-100 extraction of synaptosomes and sucrose density gradient
     centrifugation) contain several contaminants that co-fractionate
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with PSDs due to similarities in detergent insolubility and density. We have begun to clarify which proteins in the PSD fraction are genuine components using an affinity purification protocol with magnetic **beads coated** with an **antibody** to PSD-95, a specific marker of excitatory PSDs. Thin section electron microscopy shows almost exclusively PSD-shaped structures decorating the surface of the **beads**. Western blots demonstrate a large enrichment of PSD-95 in affinity purified preparations compared to standard PSD fractions and a sharp decrease in glial fibrillary acidic protein, a major contaminant of the fraction. Interestingly, the relative amount of Ca2+/calmodulin-dependent protein kinase II (CaMKII)-a functionally variable component of PSDs-is less in affinity purified samples compared to the parent PSD fraction but the enzyme retains its activity as observed through kinase assays. Also the relative concentration of the cytoskeletal protein, actin, is greatly reduced upon affinity purification. Morphological as well as biochemical data indicate that the affinity purification method yields highly pure PSD preparation that can be used for the identification of PSD elements.

IT Major Concepts
Biochemistry and Molecular Biophysics; Equipment, **Apparatus**, **Devices** and Instrumentation; Methods and Techniques

IT Parts, Structures, & Systems of Organisms
cytoskeleton

IT Chemicals & Biochemicals
actin: cytoskeletal protein; calcium ion/calmodulin-dependent protein kinase II [CAMKII]; glial fibrillary acidic protein; postsynaptic density fraction: shaped structure

IT Methods & Equipment
affinity purification method: purification method; **antibody-coated** magnetic **bead**: equipment

IT Miscellaneous Descriptors
Meeting Abstract

RN 132579-20-5 (ACTIN)

L13 ANSWER 2 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2001:138752 BIOSIS
DN PREV200100138752
TI Predictive laboratory diagnostics in oncology utilizing blood-borne cancer cells: Current best practice and unmet needs.
AU Brandt, Burkhard H. (1); Schmidt, Hartmut; de Angelis, Gabriela; Zaenker, Kurt S.
CS (1) Institut fuer Klinsche Chemie und Laboratoriumsmedizin, Westf. Wilhelms-Universitaet Muenster, Albert-Schweitzer-Strasse 33, 48149, Muenster: brandt@uni-muenster.de Germany
SO Cancer Letters, (January, 2001) Vol. 162, No. Supplement, pp. S11-S16. print.
ISSN: 0304-3835.
DT Article
LA English
SL English
AB The aim of laboratory diagnostics in oncology is to improve the clinical outcome of cancer by allowing earlier detection. Molecular knowledge of cancer should increase the number of risk and prognostic factors and will allow development of methods for detection and elimination of even very small tumors. Thus, the race for the specific tumor antigen in peripheral blood and the race for the blood-borne cancer cell happened simultaneously. The direct detection of the cells which have the highest probability to harbor all the properties mandatory to be life-threatening, conceivably metastatic, would be the most promising way to find the target structure of malignancy. Methods applying enrichment techniques based on

density, morphology, tissue specific protein and tumor-associated protein detection enabled multi-parametric analysis of those blood-borne cancer cells. In exemplary studies it was demonstrated that the count of cell clusters positive for the tissue-specific proteins cytokeratin and prostate-specific antigen (PSA) from the peripheral blood of prostate cancer patients and a combination of a tissue-specific protein, a oncogenic receptor protein cytokeratin and p185c-erbB-2 from the peripheral blood of breast cancer patients is related to the stage of the diseases. Breast cancer patients who presented with cytokeratin/p185c-erbB-2 positive cell clusters showed a decrease of those cells under adriamycin adjuvant therapy. Nevertheless, additional molecular markers are required to characterize the functional properties of blood-borne cancer cells. Therefore, the genome of the cells can be investigated using a procedure for indirectly detecting aberrations of defined gene locations, i.e. multiplex microsatellite polymerase chain reaction. Up to now, the methods applied to the **separation** of **blood**-borne cancer **cells** are time-consuming and rather expensive. They consist of an initial enrichment step of density gradient **centrifugation** or buffy **coat** preparation followed by a specific isolation step using superparamagnetic **microbeads** coupled to **antibodies**, filter techniques or multi-parametric flow cytometry. Novel technologies have to be applied using miniaturization, integration and parallel-processing techniques based on those used in the computer industry to overcome the drawbacks.

IT Major Concepts
Methods and Techniques; Tumor Biology
IT Parts, Structures, & Systems of Organisms
blood; blood-borne cancer cells; breast; prostate
IT Diseases
breast cancer; prostate cancer
IT Chemicals & Biochemicals
cytokeratin; p185-c-erbB-2; prostate-specific antigen; tumor antigen
IT Alternate Indexing
Breast Neoplasms (MeSH); Prostatic Neoplasms (MeSH)
IT Methods & Equipment
enrichment techniques
IT Miscellaneous Descriptors
oncology; predictive laboratory diagnostics
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L13 ANSWER 3 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2000:525383 BIOSIS
DN PREV200000525383
TI Immunomagnetic cell enrichment detects more disseminated cancer cells than immunocytochemistry in vitro.
AU Zigeuner, Richard E. (1); Riesenberg, Rainer; Pohla, Heike; Hofstetter, Alfons; Oberneder, Ralph
CS (1) Department of Urology, University of Graz, Graz Austria
SO Journal of Urology, (November, 2000) Vol. 164, No. 5, pp. 1834-1837. print.
ISSN: 0022-5347.
DT Article
LA English
SL English
AB Purpose: We describe a method to improve tumor cell detection compared to

currently available immunocytochemical methods by using immunomagnetic cell enrichment. Materials and Methods: Two different methods of immunomagnetic cell enrichment using **antibody coat d** magnetic **beads** were tested and compared with unenriched immunocytochemistry. One method was positive selection of epithelial cells from mononuclear cells with the antiepithelial **antibody** BER-EP4 and the other was depletion of mononuclear cells with the antileukocyte **antibody** CD45. Mononuclear cells were isolated from peripheral blood by density **centrifugation** and various numbers of tumor cells were added. The 5 different cell lines from urological malignancies used in the study were DU-145, RT-4, CAKI-2, KTCTL-2 and KTCTL-30. Following incubation of cell suspensions with the **beads**, **cell separation** was performed in a magnetic field. After **centrifugation** on glass slides immunocytochemical staining for cytokeratin was performed. A total of 112 experiments were completed and negative controls were obtained. Results: The number of tumor cells detected by positive selection and depletion was significantly higher than by immunocytochemistry ($p < 0.001$). The median enrichment factor and tumor cell recovery rate for positive selection and depletion were 15.3 and 61.2%, and 13.0 and 57.3%, respectively (not significant). With less than 1 tumor cell suspended in 106 mononuclear cells, the probability of tumor cell detection was 23% for immunocytochemistry alone and 93.3% for both enrichment methods ($p < 0.01$). No false-positive results were observed. Conclusions: Compared to immunocytochemistry, immunomagnetic cell enrichment significantly improves the sensitivity of detection of epithelial cells added to mononuclear cells. Both methods of enrichment were equally effective and may be important for clinical practice in the future.

IT Major Concepts
Urinary System (Chemical Coordination and Homeostasis); Reproductive System (Reproduction); Tumor Biology

IT Chemicals & Biochemicals
BER-EP4; CD45; cytokeratin

IT Methods & Equipment
density **centrifugation**: isolation method; immunocytochemistry: diagnostic method; immunomagnetic cell enrichment: analytical method

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
CAKI-2 cell line (Hominidae); DU-145 cell line (Hominidae); KTCTL-2 cell line (Hominidae); KTCTL-30 cell line (Hominidae); RT-4 cell line (Hominidae)

ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L13 ANSWER 4 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2000:370194 BIOSIS
DN PREV200000370194
TI Fractionation of differentiating cells using density perturbation.
AU Bildirici, L.; Rickwood, D. (1)
CS (1) Department of Biological Sciences, University of Essex, Wivenhoe Park, Colchester, Essex, CO4 3SQ UK
SO Journal of Immunological Methods, (23 June, 2000) Vol. 240, No. 1-2, pp. 93-99. print.
ISSN: 0022-1759.
DT Article
LA English
SL English
AB This paper describes the development of a new method for the fractionation

of purified subpopulations of partially differentiated cells on continuous isopycnic gradients, using a density perturbation method based on the ability of cells to bind dense **antibody-coated beads**. Until now none of the available fractionation techniques, such as magnetic cell fractionation has been efficient for **separating** subpopulations of partially differentiated **cells**. The fractionation experiments described in this report used promyelocytic HL-60 and DMSO-induced granulocytic HL-60 cells as a model system. Populations of cells, modified by the binding of dense **beads** were fractionated on isotonic, isopycnic Optiprep gradients by **centrifugation** at 220 X g for 90 min at 20degreeC. Examination of the different gradient fractions showed that, as cells bind increasing numbers of **beads**, they are found in the denser regions of the isopycnic gradients. Indirect immunofluorescence was combined with flow cytometric techniques to characterise the fractionation of partially differentiated cells. Flow cytometric results confirmed that as antigenic determinants appear on the surface at higher levels of expression, the number of **beads** binding to each cell increased. Furthermore, after fractionation, when the **bead**-bound and non-**bead**-bound cells were cultured in the presence of DMSO, those cells that had bound more **beads** targeted to differentiated cells were found to achieve terminal differentiation faster than those cells that had not been associated with any **beads**.

IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Immune System (Chemical Coordination and Homeostasis); Methods and Techniques

IT Chemicals & Biochemicals
DMSO: reagent

IT Methods & Equipment
centrifugation: **centrifugation** techniques: CT, purification method; dense anti-body coated beads: equipment; density perturbation method: Preparatory and General Laboratory Techniques, purification method; flow cytometry: analytical method, cytophotometry: CT; indirect immunofluorescence: Detection/Labeling Techniques, analytical method; magnetic site fractionation: Preparatory and General Laboratory Techniques, separation method

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
HL-60 cell line (Hominidae): human leukemia cells

ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

RN 67-68-5 (DMSO)

L13 ANSWER 5 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 2000:118562 BIOSIS
DN PREV200000118562
TI Isolation of endothelial cells and their progenitor cells from human peripheral blood.
AU Boyer, Michael; Townsend, Laurace E. (1); Vogel, L. Michelle; Falk, Jeffrey; Reitz-Vick, Darlene; Trevor, Katrina T.; Villalba, Mario; Bendick, Phillip J.; Glover, John L.
CS (1) Department of Surgery-Research, William Beaumont Hospital, 3601 W 13 Mile Rd, Royal Oak, MI, 48073 USA
SO Journal of Vascular Surgery, (Jan., 2000) Vol. 31, No. 1 part 1, pp. 181-189.
ISSN: 0741-5214.
DT Article
LA English
SL English

AB Purpose: We have developed techniques to isolate endothelial cell (EC) progenitors from human peripheral and umbilical cord blood. Methods: Human adult peripheral and umbilical cord blood monocytes were isolated by **centrifugation**, and progenitor **cells** were **separated** with the use of magnetic polystyrene **beads** that were **coated** with a monoclonal **antibody** specific for the CD34 cell-membrane antigen. Cells were propagated in selective media, and developing cultures were immunostained for CD31, CD34, factor VIII, and vascular endothelial growth factor cell receptors. ECs that developed were transfected with a gene for prourokinase and used to line ePTFE grafts, which were evaluated in vitro in a pulsatile flow system. Results: Umbilical cord monocyte cultures demonstrated colonies that resembled ECs at approximately 2 weeks, with growth being best supported by EC growth media plus 20% calf serum with iron. Immunostaining of colonies was positive for CD31 and factor VIII. After 18 days in culture, CD34+ cells from adult peripheral blood were noted, which had the typical cobblestone appearance of ECs and immunostained positively for CD31 and factor VIII-related antigens. Cultures of umbilical cord-derived cells and adult peripheral blood-derived cells developed complex line formations within 1 week in culture that stained positively for vascular endothelial growth factor receptor-2. Urokinase-transfected ECs were shown to overexpress urokinase. Prosthetic grafts lined with transfected cells showed 87.33% +- 4.97% cell adherence after 2 hours in a pulsatile flow system at clinically relevant shear stress. Conclusion: We conclude that endothelial progenitor cells can be isolated from human adult peripheral and umbilical cord blood and developed into EC cultures as a source of cells for vascular graft seeding and gene therapy.

IT Major Concepts
Methods and Techniques; Cardiovascular System (Transport and Circulation)

IT Parts, Structures, & Systems of Organisms
endothelial cells: circulatory system; peripheral blood: blood and lymphatics; umbilical cord blood: blood and lymphatics

IT Chemicals & Biochemicals
CD31; CD34; factor VIII; vascular endothelial growth factor receptor-2

IT Methods & Equipment
centrifugation: cell isolation method; magnetic polystyrene bead **separation**: **cell** isolation method

ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia

ORGN Organism Name
human (Hominidae): adult

ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

RN 9001-27-8Q (FACTOR VIII)
109319-16-6Q (FACTOR VIII)
113189-02-9Q (FACTOR VIII)

L13 ANSWER 6 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1999:231565 BIOSIS
DN PREV199900231565
TI Fetal erythroblast isolation up to purity from cord blood and their culture in vitro.
AU Sitar, Giammaria (1); Garagna, Silvia; Zuccotti, Maurizio; Falcinelli, Cristina; Montanari, Laura; Alfei, Alessandro; Ippoliti, Giovanbattista; Redi, Carlo Alberto; Moratti, Remigio; Ascari, Edoardo; Forabosco, Antonino
CS (1) Clinica Medica 2, Policlinico S. Matteo, Universita di Pavia, 27100, Pavia Italy
SO Cytometry, (April 1, 1999) Vol. 35, No. 4, pp. 337-345.

ISSN: 0196-4763.
DT Article
LA English
SL English
AB Background: Erythroblasts have been the most encouraging candidate cell type for noninvasive prenatal genetic investigation. We previously showed that human erythroblasts can be recovered from bone marrow and blood bank buffy **coats** by a physical **cell separation**.
In the present study, we modified our previous methodology, taking into account the peculiar behavior of erythroblasts in response to modifications of pH and osmolality of the separation medium. Methods: Twenty to forty milliters of cord blood were initially **centrifuged** on Ficoll/diatrizoate (1.085 g/ml). The interphase **cells** were further **separated** on a continuous density gradient (1.040-1.085 g/ml). Two different gradients were initially compared: the first was iso-osmolar and neutral, whereas the second also contained an ionic strength gradient and a pH gradient (triple gradient). A subsequent monocyte depletion was performed by using magnetic **microbeads coated** with anti-CD14 monoclonal **antibody** (mAb), and erythroblasts were purified by sedimentation velocity. Purified cells were investigated by analyses with fluorescence-activated cell sorting (FACS) and fluorescence in situ hybridization (FISH) and immunocytochemistry with mAb against fetal hemoglobin and were cultured in vitro. Results: When nucleated cells were spun on an iso-osmolar and neutral continuous density gradient, two **separated** bands of nucleated red **blood** cells (NRBCs) were obtained: a light fraction banding at 1.062 g/ml and an heavy fraction banding at 1.078 g/ml. Conversely, when cells were spun in the triple gradient, NRBCs were shifted to the low-density region. Monocyte depletion by immunomagnetic **microbeads** and velocity sedimentation provided a pure erythroblast population. FACS and FISH analyses and immunocytochemistry substantiated the purity of the isolated cell fraction, which was successfully cultured in vitro. Conclusions: We have shown that fetal erythroblasts can be purified up to homogeneity from cord blood, but further refinements of the isolation procedure are necessary before the same results can be obtained from maternal peripheral blood.
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Methods and Techniques
IT Parts, Structures, & Systems of Organisms
cord blood: blood and lymphatics, embryonic structure, purification; erythroblasts: blood and lymphatics, isolation, fetal
IT Chemicals & Biochemicals
hemoglobin: analysis
IT Methods & Equipment
flow cytometry: analytical method, cytophotometry: CT; in vitro blood cell culture: Cell Culture Techniques, culture method; isopycnic gradient **centrifugation**: **centrifugation** techniques: CT, purification method; Coulter Epics XL flow cytometer: Coulter, equipment; FISH [fluorescence in-situ hybridization]: Detection/Labeling Techniques, analytical method
IT Miscellaneous Descriptors
pH effects
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae): fetus, newborn
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L13 ANSWER 7 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1998:175925 BIOSIS
DN PREV199800175925
TI Innovative two-step negative selection of granulocyte colony-stimulating factor-mobilized circulating progenitor cells: Adequacy for autologous and allogeneic transplantation.
AU Rambaldi, Alessandro (1); Borleri, Gianmaia; Dotti, Gianpietro; Bellavita, Piermario; Amaru, Ricardo; Biondi, Andrea; Barbui, Tiziano
CS (1) Div. Hematology, Ospedali Riuniti Bergamo, Largo Barozzi 1, 24100 Bergamo Italy
SO Blood, (March 15, 1998) Vol. 91, No. 6, pp. 2189-2196.
ISSN: 0006-4971.
DT Article
LA English
AB A major obstacle in purifying either autologous or allogeneic hematopoietic stem cells from granulocyte colony-stimulating factor (G-CSF) mobilized circulating progenitor cells (CPC) is represented by the huge cellularity present in each apheretic product. To obtain a significant debulking of unwanted cells from the leukapheresis, we developed a modified protocol of immune rosetting whereby human ABO-RH compatible red blood cells (RBCs) are treated with chromium chloride and then **coated** with murine monoclonal **antibodies** (MoAbs) against leukocyte antigens. When experiments were performed with leukaphereses obtained from normal donors or from T-cell acute lymphoblastic leukemia (T-ALL) patients, RBCs were **coated** with murine MoAbs against human mature myeloid cells (CD11b) and T cells (CD6); whereas, in the case of patients with B-precursor ALL, B-cell non-Hodgkin's lymphoma (B-NHL), or multiple myeloma (MM), RSCs were **coated** with anti-CD11b only. After incubation with CPC, rosetting cells (myeloid precursor cells, granulocytes, monocytes, and T cells) were removed by Ficoll-Hypaque density gradient **centrifugation** with a blood cell processor **apparatus**, COBE (Lakewood, CO) 2991. After this step, a significant reduction of the initial cellularity was consistently obtained (range, 72% to 97%), whereas the median absolute recovery of the CD34+ cells was above 85% (range, 64 to 100), with a 10-fold relative enrichment ranging from 3% to 41%. In a second step, CPC can be further purged of contaminating T or B cells by incubation with lymphoid-specific magnetic **microbeads** (anti-CD2 and -CD7 to remove T cells; anti-CD19 to remove B cells) and elution through a type-D depletion column (composed of ferromagnetic fiber) inserted within a SuperMACS **separator device** (Miltenyi Biotech, Bergisch-Gladbach, Germany). By this approach, a highly effective (three to four logs) T-cell depletion was achieved in all experiments performed with normal donors or T-ALL patients (median loss of CD3+ cells: 99.8% (range 99.2 to 100)) and an equally efficient B-cell depletion was obtained from B-precursor ALL, B-NHL, or MM patients. At the end of the procedure the T- or B-cell depleted fraction retained a high proportion of the initial hematopoietic CD34+ stem cells, with a median recovery above 70% (range 48% to 100%) and an unmodified clonogenic potential. In five patients (two follicular NHL and three ALL) the purified fraction of stem cells was found disease free at the molecular level as assessed by polymerass chain reaction (PCR) analysis of the t(14;18) chromosome translocation or clono-specific DNA sequences of IgH or T-cell receptor gamma and delta chain genes. Purified autologous and allogeneic CPCs were transplanted in three and six patients, respectively, who showed a prompt and sustained hematologic engraftment. In conclusion, this method represents a simple and reproducible two-step procedure to obtain a highly efficient purging of T or B cells from G-CSF expanded and mobilized CPCs. This approach might lead to the eradication of the neoplastic clone in the autologous stem cell inoculum as well as for T-cell depletion during

allogeneic transplantation.
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Immune System (Chemical Coordination and Homeostasis)
IT Parts, Structures, & Systems of Organisms
progenitor cells: blood and lymphatics, circulating, mobilized; red blood cells: blood and lymphatics; B cells: blood and lymphatics, immune system; T cells: blood and lymphatics, immune system
IT Chemicals & Biochemicals
granulocyte-colony stimulating factor
IT Methods & Equipment
transplantation: allogeneic, autologous, transplantation method
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
Animals; Chordates; Humans; Mammals; Primates; Vertebrates

L13 ANSWER 8 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:409604 BIOSIS
DN PREV199598423904
TI Optimization of conditions for specific binding of **antibody-coated beads** to cells.
AU Patel, D.; Rickwood, D. (1)
CS (1) Dep. Biol., Univ. Essex, Wivenhoe Park, Colchester CO4 3SQ UK
SO Journal of Immunological Methods, (1995) Vol. 184, No. 1, pp. 71-80. ISSN: 0022-1759.
DT Article
LA English
AB It has previously been demonstrated that cells can bind **antibody-coated beads**; this effect can be used to enhance the fractionation of cells using magnetic fields or by **centrifugation** on isopycnic, isotonic density gradients. As a general rule, the higher the expression of surface antigens the more **beads** bind to cells. However, we have also noted that other factors also affect the number of **beads** found bound to cells. Experiments have been carried out to determine what factors affect binding of **antibody-coated beads** to cells. The optimum conditions for binding of **antibody-coated beads** to MOLT-4 T cells were found to be, namely, a 20:1 **bead** to cell ratio in a 1 ml incubation volume, with continuous end-over-end mixing for 1 h at 25 degree C. Furthermore, the optimum **centrifugation** conditions at which the samples were separated on isopycnic, isotonic density gradients were determined as 220 times g-max for 90 min, at 20 degree C. The results indicate the preferred conditions that are necessary to achieve optimum **bead** binding by cells and their subsequent fractionation. Different **antibody-coated beads** were examined including **Dynabeads** M-450, used as a known standard. In addition we describe, as a possible alternative to **Dynabeads**, dense polystyrene **beads**, for the **separation** of **cells** on the basis of the immunological identity of the surface of cells using density perturbation methods.
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Immune System (Chemical Coordination and Homeostasis); Methods and Techniques
IT Chemicals & Biochemicals
POLYSTYRENE
IT Miscellaneous Descriptors
CELL SEPARATION; DENSE POLYSTYRENE BEAD; DENSITY

PERTURBATION; DYNABEAD; IMMUNOLOGIC METHOD; ISOPYCNIC DENSITY **CENTRIFUGATION**; OPTIPREP
ORGN Super Taxa
Mammalia - Unspecified: Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
mammal (Mammalia - Unspecified); Mammalia (Mammalia - Unspecified)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman mammals; nonhuman vertebrates; vertebrates
RN 9003-53-6 (POLYSTYRENE)

L13 ANSWER 9 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:73676 BIOSIS
DN PREV199598087976
TI Isolation and culture of human bone marrow endothelial cells.
AU Schweitzer, C. M. (1); Van Der Schoot, C. E.; Drager, A. M.; Van Der Valk, P.; Zevenbergen, A.; Hooibrink, B.; Westra, A. H.; Langenhuijsen, M. M. A. C.
CS (1) Dep. Hematol., Br 238, Free Univ. Hosp., De Boelelaan 1117, 1081 HV Amsterdam Netherlands
SO Experimental Hematology (Charlottesville), (1995) Vol. 23, No. 1, pp. 41-48.
ISSN: 0301-472X.
DT Article
LA English
AB Bone marrow endothelial cells are likely to play an important role in the homing of hematopoietic progenitor cells. In view of analyzing the interactions between endothelial cells and hematopoietic progenitor cells, we studied several methods of isolating endothelial cells from human bone marrow, including fluorescence activated **cell** sorting (FACS) and **separation** by immunomagnetic **beads**. FACS sorting gave the best results as contamination with other cells did not occur. After density-gradient **centrifugation** of bone marrow aspirates, the mononuclear cell (MNC) fraction was depleted for T cells, B cells, and myeloid **cells** by immunomagnetic **separation**. Further enrichment of endothelial **cells** was achieved by FACS sorting using BNH9 or S-Endo1 monoclonal **antibodies** (MAbs). These MAbs, in contrast to several other endothelial-cell reactive MAbs, were found to react highly specifically with sinus endothelial cells as tested by immunohistochemistry on bone marrow tissue sections and cell culture preparations and by double-colored FACS analysis on bone marrow MNCs (BMMNC). Sorted cells, which formed 0.05% of the MNC fraction, showed strong intracytoplasmic von Willebrand factor positivity. Ultrastructural analysis revealed cells with endothelial characteristics. Cells were cultured in fibronectin-**coated**, 24-well culture plates in endothelial-cell culture medium or long-term bone marrow culture medium. After 1 to 3 weeks of culture, a monolayer of spindle-shaped cells developed expressing endothelial cell antigens. Cells could be kept in culture for 4 to 6 weeks. In conclusion, the method described provides highly purified preparations of human bone marrow endothelium that may permit in vitro adhesion experiments with normal and leukemic hematopoietic progenitor cells.
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Cardiovascular System (Transport and Circulation); Cell Biology; Development; Morphology
IT Miscellaneous Descriptors
ELECTRON MICROSCOPY; ENDOTHELIUM; IMMUNOHISTOCHEMISTRY
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name

Hominidae (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

L13 ANSWER 10 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1995:30477 BIOSIS
DN PREV199598044777
TI Highly sensitive polymerase chain reaction methods show the frequent survival of residual recipient multipotent progenitors after non-T-cell-depleted bone marrow transplantation.
AU Petit, Thierry; Raynal, Brigitte; Socie, Gerard; Landman-Parker, Judith; Bourhis, Jean-Henri; Gluckman, Eliane; Pico, Jose; Brison, Olivier (1)
CS (1) Laboratoire d'Oncologie Moleculaire, URA 1158 CNRS, Inst. Gustave Roussy, 39 rue Camille Desmoulins, 94805 Villejuif Cedex France
SO Blood, (1994) Vol. 84, No. 10, pp. 3575-3583.
ISSN: 0006-4971.
DT Article; General Review
LA English
AB Twenty-four male patients grafted for various pathologies with the marrow of a female donor and presenting a complete donor-type hematopoiesis when analyzed by polymerase chain reaction (PCR) amplification of minisatellite sequences 33.6.3 and MS51 (0.1% to 1% sensitivity) were studied by the highly sensitive technique of PCR amplification of the Y-chromosome-specific DYZ1 sequence (0.01% sensitivity). Residual recipient male cells were detected in all peripheral blood samples collected within 1 year posttransplantation. These residual cells were present in both the lymphocyte and polymorphonuclear **cell** fractions when such a **separation** was performed by Ficoll gradient **centrifugation** and, for samples of 13 of 15 patients, at comparable levels in both fractions. In 3 samples collected from 3 patients 4 months or more posttransplantation, residual recipient cells were detected in the polymorphonuclear cell fraction but were present at a lower level or were undetectable in the lymphocyte fraction. These cells are of hematopoietic origin because they were detected at equivalent levels in whole blood and in B and T lymphocytes sorted with **antibody-coated** magnetic **beads**. They were not detected in samples collected more than 15 months posttransplantation for 6 of 7 patients. The persistence of residual recipient cells within 1 year posttransplantation is not restricted to male patients receiving a transplant from a female donor because they were also detected in 2 female patients using an allele-specific amplification method for the thyroid peroxidase gene that also has a high sensitivity (0.01%). Our results indicate that at least residual recipient myeloid progenitors and possibly totipotent hematopoietic stem cells may survive intensive pretransplant conditioning regimen and support a transient residual hematopoiesis of the host posttransplantation.
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Clinical Immunology (Human Medicine, Medical Sciences); Enzymology (Biochemistry and Molecular Biophysics); Physiology
IT Miscellaneous Descriptors
GRAFT-VS.-HOST DISEASE; HEMATOPOIESIS; POLYMORPHONUCLEAR CELL
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

L13 ANSWER 11 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.

AN 1994:207271 BIOSIS
DN PREV199497220271
TI Immunomagnetic purification of rat proximal kidney cells.
AU Cain, K. (1); Gurney, J. E.
CS (1) MRC Toxicology Unit, Hodgkin Building, Univ. Leicester, P.O. Box 138, Lancaster Road, Leicester LE1 9HN UK
SO Toxicology In Vitro, (1994) Vol. 8, No. 1, pp. 13-19.
ISSN: 0887-2333.
DT Article
LA English
AB A method for producing large quantities of pure proximal tubule cells is described. The procedure involves collagenase perfusion to prepare kidney **cells** that are **separated** by **centrifugal** elutriation to produce a purified cell preparation of proximal tubule cells (PCS). The elutriation-purified cells were treated with a rabbit polyclonal **antibody** to rat gamma-glutamyl transpeptidase (GGT). The resulting **antibody**-labelled cells were then incubated with **Dynabeads coated** with a sheep anti-rabbit IgG **antibody**. The **Dynabeads**, which are monodispersed polystyrene **beads** with a magnetic ferrite core, bind specifically to the **antibody**-labelled cells. The cell-**bead** complexes were then harvested with a magnet and washed twice to remove cells not labelled with **antibody**. The procedure is simple and rapid, and can be used to produce 20-25 times 10-6 cells. The cells exhibited a well defined brush border membrane with increased GGT and alkaline phosphatase enzyme activities. Concomitant with this is a four-fold decrease in hexokinase activity, which demonstrates that contaminating distal and loop of Henle tubule cells have been removed.
IT Major Concepts
Biochemistry and Molecular Biophysics; Cell Biology; Enzymology (Biochemistry and Molecular Biophysics); Immune System (Chemical Coordination and Homeostasis); Membranes (Cell Biology); Methods and Techniques; Morphology; Urinary System (Chemical Coordination and Homeostasis)
IT Chemicals & Biochemicals
GAMMA-GLUTAMYL TRANSPEPTIDASE; ALKALINE PHOSPHATASE; COLLAGENASE
IT Miscellaneous Descriptors
ALKALINE PHOSPHATASE; BRUSH BORDER DEFINITION; COLLAGENASE PERFUSION; CYTOLOGIC METHOD; DYNABEAD; GAMMA-GLUTAMYL TRANSPEPTIDASE; IMMUNOLOGIC METHOD
ORGN Super Taxa
Muridae: Rodentia, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
Muridae (Muridae)
ORGN Organism Superterms
animals; chordates; mammals; nonhuman vertebrates; nonhuman mammals; rodents; vertebrates
RN 9046-27-9 (GAMMA-GLUTAMYL TRANSPEPTIDASE)
9001-78-9 (ALKALINE PHOSPHATASE)
9001-12-1 (COLLAGENASE)

L13 ANSWER 12 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1993:478692 BIOSIS
DN PREV199396112292
TI Use of density perturbation to isolate immunologically distinct populations of cells.
AU Patel, D.; Rubbi, C. P.; Rickwood, D. (1)
CS (1) Dep. Biol., Univ. Essex, Wivenhoe Park, Colchester CO4 3SQ, England UK
SO Journal of Immunological Methods, (1993) Vol. 163, No. 2, pp. 241-251.
ISSN: 0022-1759.

DT Article
LA English
AB Experiments have been carried out to demonstrate that, using **antibody coated-Dynabeads** as a model system for density labelling MOLT-4 T cells, the overall density of cells can be increased such that the cells that bind particles can be separated on isopycnic isotonic density gradients from cells that bind fewer particles. The increase in density is dependent on the cell volume and the number of particles bound. After **centrifugation**, cells with bound particles were found at positions in the gradient that reflected their increased density. Observed density ranges for cells with particular numbers of particles bound coincided closely with calculated expected density ranges. These results indicate the potential for **separation** of different subpopulations of **cells** on the basis of the immunological identity of the surface of cells using density perturbation methods involving **antibody coated**-density particles.
IT Major Concepts
Blood and Lymphatics (Transport and Circulation); Clinical Immunology (Human Medicine, Medical Sciences)
IT Miscellaneous Descriptors
COMPUTED TOMOGRAPHY; HYPERSENSITIVITY; IMMUNOGLOBULIN G
ORGN Super Taxa
Hominidae: Primates, Mammalia, Vertebrata, Chordata, Animalia
ORGN Organism Name
human (Hominidae)
ORGN Organism Superterms
animals; chordates; humans; mammals; primates; vertebrates

L13 ANSWER 13 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1992:478114 BIOSIS
DN BA94:109489
TI DIAGNOSIS OF MEDITERRANEAN SPOTTED FEVER BY INDIRECT IMMUNOFLUORESCENCE OF RICKETTSIA-CONORII IN CIRCULATING ENDOTHELIAL CELLS ISOLATED WITH MONOCLONAL **ANTIBODY-COATED** IMMUNOMAGNETIC **BEADS**.
AU DRANCOURT M; GEORGE F; BROUQUI P; SAMPOL J; RAOULT D
CS UNITE RICKETTSIES, FACULTE MEDICINE, BOULEVARD JEAN MOULIN, 13385 MARSEILLE CEDEX 05, FR.
SO J INFECT DIS, (1992) 166 (3), 660-663.
CODEN: JIDIAQ. ISSN: 0022-1899.
FS BA; OLD
LA English
AB Rickettsia conorii, an obligate intracellular bacterium that infects vascular endothelial cells, is the etiologic agent of Mediterranean spotted fever (MSF). A new procedure using indirect immunofluorescence was used to directly detect R. conorii in circulating endothelial **cells** (CEC). CEC were **separated** from other **blood** components by using anti-endothelial cell monoclonal **antibody-coated** magnetic **beads**. An anti-R. conorii polyclonal rabbit antiserum was used to stain rickettsiae. The entire procedure took 3 h. R. conorii was detected in CEC from 9 of 12 patients ultimately confirmed as having MSF. Among the patients, 5 with R. conorii isolated by **centrifugation**-shell vial assay were also positive by the new technique. None of 3 patients who diagnosis was other than MSF had R. conorii detected in CEC. The procedure may be helpful for rapid diagnosis of MSF and may lead to new technical approaches for the diagnosis of infectious disease caused by intracellular pathogenic microorganism.
IT Miscellaneous Descriptors
HUMAN RABBIT ANTISERUM SENSITIVITY RAPID DIAGNOSIS

CENTRIFUGATION-SHELL VIAL ASSAY IMMUNOLOGIC METHOD DIAGNOSTIC METHOD

L13 ANSWER 14 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1991:523463 BIOSIS
DN BA92:134923
TI **SEPARATION** AND CHARACTERIZATION OF LEYDIG **CELLS** AND MACROPHAGES FROM RAT TESTES.
AU DIRAMI G; POULTER L W; COOKE B A
CS DEP. BIOCHEM., ROYAL FREE SCH. MED., UNIV. LONDON, ROWLAND HILL STREET, LONDON NW3 2PF.
SO J ENDOCRINOL, (1991) 130 (3), 357-366.
CODEN: JOENAK. ISSN: 0022-0795.
FS BA; OLD
LA English
AB A method involving **centrifugal** elutriation followed by density gradient **centrifugation** and incubation with a macrophage monoclonal **antibody** has been investigated to **separate** the characterize Leydig **cells** and macrophages from adult rat testes. After dispersion of the testes with collagenase, the isolated interstitial cells were found to contain 18% Leydig cells and 12% macrophages. These **cells** were then **separated** by **centrifugal** elutriation into eight fractions (F1-F8) (9 to 74 ml/min at 386 g). Each of these fractions was then further purified by density gradient **centrifugation** on 0-90% Percoll gradients. All **centrifugal** elutriation, the macrophages were mainly eluted in the first three fraction (F1-F3), whereas the Leydig cell percentage increased in each fraction with increasing flow rate. After further purification of each fraction on Percoll gradients, high percentages of macrophages (11-20%) were found in fractions F1-F3 (average density 1.045 g/ml), containing 11-37% Leydig cells. Less than 3% of the cells in fraction F4-F8 (average density 1.075 g/ml) were macrophages and more than 95% were Leydig cells. Heterogeneity of Leydig cells with respect to sedimentation velocities and function was found. Leydig cells from elutriated- and Percoll-purified fractions F4-F8 were heterogeneous with respect to testosterone and cyclic AMP (cAMP) production but showed a similar binding capacity for 125I-labelled human chorionic gonadotrophin. Leydig cells with the highest sedimentation velocity (35.7 mm/h.cntdot.g) from fractions F7 and F8 were approximately twofold more responsive to LH (3.3 nmol/l) with respect to testosterone and cAMP production compared with Leydig cells with the lowest sedimentation velocity (20.7 mm/h.cntdot.g). The elutriated and Percoll-purified cells (corresponding to fractions F4-F8) were further purified by incubation with magnetic **beads** **coated** with a macrophage monoclonal **antibody**; this yielded very pure Leydig cells containing < 0.3% macrophages. The incubation temperature (room temperature or 4.degree. C) during the purification with magnetic **beads** did not affect the degree of purity or the responsiveness of the Leydig cells to LH. The removal of the remaining macrophages with magnetic **beads** did not have any significant effect on the Leydig cell responsiveness to LH. It was concluded that Leydig cells purified by elutriation and density gradient **centrifugation** are heterogeneous with respect to their sedimentation velocities and responses to LH; the higher the sedimentation velocity, the higher is their capacity to respond to LH. Leydig cells free from macrophages can be prepared by further purification using magnetic **beads** **coated** with a macrophage monoclonal **antibody**.
IT Miscellaneous Descriptors
LUTEINIZING HORMONE RESPONSIVENESS ELUTRIATION DENSITY GRADIENT **CENTRIFUGATION**

RN 9002-67-9 (LUTEINIZING HORMONE)

L13 ANSWER 15 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1990:262220 BIOSIS
DN BA90:4306
TI T LYMPHOCYTE AGGREGATION WITH IMMOBILIZED ANTI-TCR-ANTIBODIES IS DEPENDENT UPON ENERGY AND MICROFILAMENT ASSEMBLY.
AU DEBELL K E; TAPLITS M S; HOFFMAN T; BONVINI E
CS LCB, DBBP, CBER, US-FDA, NIH CAMPUS, BUILDING 29, ROOM 231, 8800 ROCKVILLE PIKE, BETHESDA, MD. 20892.
SO CELL IMMUNOL, (1990) 127 (1), 159-171.
CODEN: CLIMB8. ISSN: 0008-8749.
FS BA; OLD
LA English
AB An assay has been developed to quantitate the binding of **beads coated** with anti-T cell receptor (TCR) monoclonal **antibodies** (MoAb) to T lymphocytes. The Ab used were a hamster MoAb, 145.2C11 (2C11), directed against the .epsilon. chain of the CD3 complex of the murine TCR, and a murine MoAb, F23.1, directed against the V.beta.8-encoded determinant of the .alpha./.beta. heterodimer of the TCR. Ab were adsorbed onto polystyrene **beads** and the **beads** labeled with [125I]bovine serum albumin ([125I]BSA). The labeled, Ab-**coated beads** were mixed at 4.degree. C with murine, cloned T-helper (Th) cells and contact between **beads** and cells was promoted by **centrifugation**. The mixtures were incubated at 37.degree. C for 10-20 min, and unbound **beads** were **separated** from **cell**-bound **beads** by Percoll gradient **centrifugation**. **Beads coated** with anti-TCR Ab formed stable conjugates with Th cells; an average of 6-10 2C11 Ab-**coated beads**/cell, or 10-15 F23.1 Ab-**coated beads**/cell was measured under optimal conditions. **Beads coated** with control Ab (hamster or mouse IgG) did not appreciably bind to the cells. Conjugation with 2C11 Ab-**coated beads** could be prevented by **coating** the cells with soluble 2C11 Ab, but not with soluble F23.1 Ab. Blocking the CD3 .epsilon. chain with soluble 2C11 Ab also reduced conjugate formation with F23.1 Ab-**coated beads**, suggesting a steric hindrance phenomenon. The extent of conjugation depended on the density of immobilized Ab. Maximum conjugation was observed with 100 .mu.g of 2C11 Ab was used to **coat** 106 **beads**; higher Ab amounts did not further increase binding. Increasing the **bead** to cell ratio in the mixture increased binding, reaching optimal binding at 300:1, irrespectively of the amount of Ab adsorbed onto the **beads**. Stable binding of anti-TCR Ab-**coated beads** to T cells was temperature and energy dependent. It was prevented when glucose was removed from the medium and the glycolysis inhibitor, 2-deoxy-D-glucose was added, or when cells were treated with sodium azide. Conjugate formation was prevented by pretreatment of the cells with cytochalasins, indicating that microfilament assembly was essential. Microtubules were not involved, as Vinca alkaloids were without effect. This novel assay system provides a simple means of studying aspects of TCR function including its physical and metabolic regulation.
IT Miscellaneous Descriptors
MURINE T-CELL RECEPTOR CONJUGATE FORMATION 2 DEOXY-D-GLUCOSE
RN 154-17-6 (2 DEOXY-D-GLUCOSE)

L13 ANSWER 16 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1988:417508 BIOSIS
DN BA86:80120
TI IMMUNOMAGNETIC ISOLATION OF CELLS FOR SEROLOGICAL BOLA TYPING.

AU LIE O; VARTDAL F; FUNDERUD S; GAUDERNACK G; OLSAKER I; FROYSADAL E; UGELSTAD J; THORSBY E
CS NATL. VET. INST., PO BOX 8156, DEP N-0033 OSLO 1, NORWAY.
SO ANIM GENET, (1988) 19 (2), 75-86.
CODEN: ANGEE3. ISSN: 0268-9146.
FS BA; OLD
LA English
AB This paper describes a totally new immunomagnetic (IM) technique adapted to serological BoLA typing. The basic technique has recently been developed by Vartdal et al. (1986) for serological HLA typing. The main advantage is that bovine mononuclear cells (e.g. T-cells and possibly their subsets, B-cells and monocytes) can be quickly and specifically isolated with high yield and viability from whole blood in a one-step procedure. This is achieved by magnetic separation of rosettes formed between the cells and superparamagnetic monosized polystyrene **microspheres** (**Dynabeads** TM) **coated** with cross-species reactive monoclonal **antibodies** (MAbs) specific for various human T-cell antigens or for HLA class II monomorphic epitopes. The cells are isolated within 5 min after a 5-min incubation at 4.degree.C. Magnetic separation of rosettes with a strong cobalt-samarium magnet eliminates all the laborious **centrifugation** steps necessary with conventional procedures. The isolated cells, still attached to the particles, are available for microcytotoxic assay. This is carried within 55 min, including a two-step application of alloantiserum and complement and addition of acridine orange/ethidium bromide for the staining of viable (green) and dead (red) cells. The high viability of isolated cells gives a very low background kill compared with the conventional technique as standarized for the international BoLA comparison test. The IM technique is likely to have its greatest impact on class II typing; class II positive **cells** being **separated** very efficiently. Polymorphic HLA class II MAbs detected likely polymorphic BoLA class II epitopes.
IT Miscellaneous Descriptors
BOVINE LYMPHOCYTIC ANTIGEN MAGNETIC MICROSPHERES T-CELLS B-CELLS MONOCYTES VIABILITY CLASS II TYPING

L13 ANSWER 17 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1985:413215 BIOSIS
DN BA80:83207
TI CHARACTERIZATION OF THE INTERACTION OF HUMAN EOSINOPHILS AND NEUTROPHILS WITH OPSONIZED PARTICLES.
AU YAZDANBAKHSH M; ECKMANN C M; ROOS D
CS CENTRAL LABORATORY OF THE NETHERLANDS RED CROSS BLOOD TRANSFUSION SERVICE, PO BOX 9190, 1006 AK AMSTERDAM, THE NETHERLANDS.
SO J IMMUNOL, (1985) 135 (2), 1378-1384.
CODEN: JOIMA3. ISSN: 0022-1767.
FS BA; OLD
LA English
AB The interaction of human eosinophils with opsonized particles was compared with that of human neutrophils. When eosinophils are stimulated with serum-opsonized zymosan particles, the lag time in H2O2 production is twice as long as found with neutrophils. The concentration of these IgG + complement component C3-**coated** particles required for optimal stimulation is .**apprx**. 4 times as high for eosinophils as for neutrophils. Under these conditions, the 2 cell types generate similar amounts of H2O2. Eosinophils produce twice as much H2O2 as do neutrophils when stimulated with the soluble agent phorbol myristate acetate. Thus, although the oxidase capacity of eosinophils is larger than that of neutrophils, opsonized mymosan is a weak trigger for this activity in eosinophils. This phenomenon may be due to differences between the 2 cell

types in the plasma membrane receptors or in the receptor oxidase transducing signal. The following are indications for the 1st possibility. IgG interacts poorly with the Fc.gamma. receptors on the eosinophil surface compared with those on neutrophils. This was shown by the inability of IgG-**coated** zymosan or IgG-**coated** latex to trigger any substantial H2O2 production by eosinophils unless brought into close contact with these cells by **centrifugation**. Neutrophils are stimulated by these particles both in suspension and in a pellet. The dissimilarity of the Fc.gamma. receptors on eosinophils and neutrophils was also shown with respect to antigenicity, determined by the monoclonal **antibodies** 3G8 and CLB-FcR-1. Eosinophils contain about half as many receptors for C3b and C3bi on their surface as do neutrophils, also detected with monoclonal **antibodies**. The interaction of IgG subclasses with functional Fc.gamma. receptors on eosinophils and neutrophils showed that eosinophils release twice as much H2O2 as do neutrophils upon interaction with IgG1-, IgG2-, or IgG3-**coated** Sepharose **beads**, but this difference becomes 5-fold with IgG4-**coated** Sepharose. This might be of relevance to the situation of chronic antigenic stimulation, e.g., in chronic schistosomiasis, in which eosinophil numbers and IgG4 **antibody** levels are elevated.

IT Miscellaneous Descriptors
HYDROGEN PEROXIDE GENERATION RECEPTOR OXIDASE TRANSDUCING SIGNAL PLASMA MEMBRANE RECEPTORS ANTIGENICITY FC GAMMA RECEPTORS CHRONIC ANTIGENIC STIMULATION

RN 7722-84-1 (HYDROGEN PEROXIDE)
9035-73-8 (OXIDASE)

L13 ANSWER 18 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1982:290270 BIOSIS
DN BA74:62750
TI IMMUNO SELECTION OF OLIGODENDROCYTES BY MAGNETIC BEADS 1. DETERMINATION OF ANTIBODY COUPLING PARAMETERS AND CELL BINDING CONDITIONS.
AU MEIER D H; LAGENAUR C; SCHACHNER M
CS DEP. NEUROBIOL., UNIV. HEIDELBERG, IM NEUENHEIMER FELD 504, 6900 HEIDELBERG, FRG.
SO J NEUROSCI RES, (1982) 7 (2), 119-134.
CODEN: JNREDK. ISSN: 0360-4012.
FS BA; OLD
LA English
AB Oligodendrocytes from early postnatal mouse cerebellum were isolated using polyacrylamide-**coated** magnetic **beads** carrying monoclonal **antibody** to 04 cell surface antigen. Oligodendrocytes were enriched to a purity of 91 .+-. 4% starting from a mixed cell population containing .**apprx**. 1.5% antigen-positive oligodendrocytes. Viability of 04 antigen-positive oligodendrocytes was . **apprx**. 90% as judged by exclusion of trypan blue. Oligodendrocytes were recovered after detachment from the **beads** with a yield of 19 .+-. 6% and after collection by **centrifugation** onto glass coverslips with yields of .**apprx**. 6% of all 04 antigen-positive cells. The final cell yield of oligodendrocytes is .**apprx**. 8 .times. 105 cells/g fresh cerebellar tissue.
IT Miscellaneous Descriptors
MOUSE CEREBELLUM

L13 ANSWER 19 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1981:161473 BIOSIS
DN BA71:31465
TI THE **SEPARATION** OF **CELL** POPULATIONS USING MONO CLONAL ANTIBODIES ATTACHED TO SEPHAROSE.
AU DE KRETSER T A; BODMER J G; BODMER W F

CS TISSUE ANTIGEN LAB., IMPERIAL CANCER RES. FUND, P.O. BOX 123, LINCOLN'S INN FIELDS, LONDON, WC2A 3PX, ENGLAND.
SO TISSUE ANTIGENS, (1980) 16 (4), 317-325.
CODEN: TSANA2. ISSN: 0001-2815.
FS BA; OLD
LA English
AB A technique is described for the positive **separation** of **cell** populations on the basis of antigenicity. Specific **antibody** is conjugated to sepharose-4B; the resulting **antibody-coated beads** complexed with cells carrying the antigen against which the **antibody** is directed. These complexes are **separated** from non-complexed **cells** by **centrifugation** over Percoll. Specifically, HLA-DR positive human peripheral blood lymphocytes were obtained with high viability and purity by the use of a monoclonal **antibody** [DA2] directed against a determinant common to all HLA-DR antigens. This has greatly facilitated HLA-DR typing of these cells.
IT Miscellaneous Descriptors
HUMAN PERIPHERAL BLOOD LYMPHOCYTE HLA-DR TYPING DA-2 MONO CLONAL ANTIBODY
RN 9012-36-6 (SEPHAROSE)

L13 ANSWER 20 OF 20 BIOSIS COPYRIGHT 2002 BIOLOGICAL ABSTRACTS INC.
AN 1979:160993 BIOSIS
DN BA67:40993
TI PRESENCE OF NADPH CYTOCHROME P-450 REDUCTASE IN RAT LIVER GOLGI MEMBRANES EVIDENCE OBTAINED BY IMMUNO ADSORPTION METHOD.
AU ITO A; PALADE G E
CS DEP. BIOL., FAC. SCI., KYUSHU UNIV., FUKUOKA 812, JPN.
SO J CELL BIOL, (1978) 79 (2 PART 1), 590-597.
CODEN: JCLBA3. ISSN: 0021-9525.
FS BA; OLD
LA English
AB Light Golgi fractions (GF1+2) prepared from rat liver homogenates by a modification of the Ehrenreich et al. procedure had significant NADPH-cytochrome P450 reductase (NADPH-cyt c reductase) activity if assayed immediately after their isolation. An **antibody** raised in rabbits against purified microsomal NADPH-cyt c reductase inhibited to the same extent the reductase activity of microsomal and Golgi fractions. To find out whether this activity is located in bona fide Golgi elements or in contaminating microsomal vesicles, following 3-step immunoadsorption procedure was used: antirabbit IgG (raised in goats) was conjugated to small (2-5 .mu.m) polyacrylamide (PA) **beads**; rabbit anti NADPH-cyt c reductase was immunoadsorbed to the **antibody-coated beads**; and GF1+2 was reacted with the **beads** carrying the 2 successive layers of **antibodies**. The **beads** were then recovered by **centrifugation**, and were washed, fixed, embedded in agarose and processed for transmission electron microscopy. Antireductase-**coated beads** absorbed 60% of the NADPH-cyt c reductase (and comparable fractions of NADH-cyt c reductase and glucose-6-phosphatase) but only 20% of the galactosyltransferase activity of the input GF1+2. Differential vesicle counts showed that .**apprx**. 72% of the immunoadsorbed vesicles were morphologically recognizable Golgi elements (vesicles with very low density lipoprotein [VLDL] clusters or Golgi cisternae); vesicles with single VLDL and smooth surfaced microsome-like vesicles were too few (. **apprx**. 25%) to account for the activity. Apparently NADPH-cytochrome P450 reductase is a Golgi membrane enzyme of probably uneven distribution among the elements of the Golgi complex.
IT Miscellaneous Descriptors

GOAT RABBIT **ANTIBODY COATED** POLY ACRYLAMIDE
BEADS TRANSMISSION ELECTRON MICROSCOPY
RN 9003-05-8 (POLY ACRYLAMIDE)
9039-06-9 (NADPH-CYTOCHROME P-450 REDUCTASE)